

Between this vertebral Insertion, and the second Muscle of the Diaphragm, a small triangular Interstice is sometimes left, like that which I mention'd, in speaking of the first Insertion. This Insertion, and that in the last false Rib, join the upper Extremities of the Psoas, and Triangularis or Quadratus Lumborum, and send off to them some communicating Fibres. The common Plane of these last Insertions, by the Separation of their Fibres, forms a Hole, through which a Bundle of Nerves passes.

It is to be observed, that the lateral Insertions of the great Muscle of the Diaphragm, on the Right Side, appear to be lower than those on the Left Side; and that the right lateral Portion appears to be larger than the Left, as being more arched.

The small Muscle of the Diaphragm is thicker than the other, but of much less Extent. It is situated along the fore Side of the Bodies of the last Vertebra of the Back, and several of those of the Loins, being turned a little to the Left Hand. It is of an oblong Form, representing, in some measure, a fleshy Collar, the two lateral Portions of which cross each other, and afterwards become tendinous toward the lower Part.

The upper Part of the Body of this Muscle is fixed in the Slope of the middle Aponeurosis of the great Muscle. The outer Edges of the Ala, or lateral Portions, join the posterior Plane of the great Muscle; and these Portions adhere to the Body of the last Vertebra of the Back. The Extremities, called likewise Pillars, or Crura, are inserted by several tendinous Digitations in the Vertebrae of the Loins.

The upper Part of the fleshy Body is formed by a particular Intertexture of Fibres, belonging to the two Alae. These two Alae, whereof that toward the Right Hand is generally the most considerable, part from each other, and form an oval Hole, terminated on the lower Part by Fibres detached from the Inside of each Ala, immediately above the last Vertebra of the Back. These Fibres decussate and cross each other; and afterwards those that come from each Ala, join that on the other Side; so that each of the Crura is a Production of both Alae.

The Fibres that come from the left Ala, cross over those from the Right Ala; and this again sends a small Fasciculus of Fibres over those of the Left Ala: Afterwards the two Crura part from each other.

The Right Crus is larger and longer than the Left, and is always inserted in the four upper Vertebrae of the Loins, and often in the fifth likewise, by the same Number of Digitations, which become more and more tendinous as they descend, and, at length, are expanded in form of an Aponeurosis. This Crus lies more on the Middle of the Bodies of the Vertebrae, than on the right Side.

The Left Crus is smaller and shorter, and lies more on the Sides of the Vertebrae. It is fixed, by Digitations, to the three upper Vertebrae of the Loins, seldom reaching lower. The lower Part of it is expanded in the same manner as the other; and the two Expansions sometimes meet together.

The oval Opening of this inferior Muscle of the Diaphragm gives Passage to the Extremity of the Oesophagus; and the Aorta lies in the Interstice between the two Crura. Immediately above the Opening, or Hole, a thin Fasciculus of Fibres is sent off to the Stomach; and, I have sometimes observed a larger Fasciculus, at the lower Extremity of the Hole, sent off, chiefly, from the Right Ala, and accompanied by some tendinous Fibres from the Left, which seemed to run to the Mesentery.

In the middle Aponeurosis of the great Muscle, a little to the Right of the anterior Part of the Slope, near the small Muscle, is a round Opening, which transmits the Trunk of the lower Vena Cava: The Border, or Circumference, of this Opening is very artfully formed by an oblique and successive Intertexture of tendinous Fibres, almost like the Edge of a Wicker-basket; and is, consequently, incapable either of Dilatation or Contraction, by the Action of the Diaphragm.

We find, therefore, three considerable Openings in the Diaphragm; one round and tendinous, for the Passage of the Vena Cava; one oval and fleshy, for the Extremity of the Oesophagus; and one fork'd, partly fleshy, and partly tendinous, for the Aorta. The round Opening is to the Right Hand, close to the upper Part of the Right Ala of the small Muscle: The oval Opening is a little to the Left; so that the Right Ala, which is between these two Holes, lies almost directly over-against the Middle of the Body of the eleventh Vertebra of the Back: The tendinous Fork is under the oval Opening, but a little more toward the Middle.

This Situation, well considered, will serve to justify, in some measure, the Descriptions and Figures of the ancient Anatomists; especially since the Right Ala of the small Muscle is larger than the Left; and since it was an easy Matter, in taking out the Diaphragm, and spreading it on a Board, to extend it too much toward both Sides. *Winslow.*

The Veins of the Diaphragm are pretty large, and go

directly to the Cava, between its Entrance into the Thorax and the Liver, where two pretty large Branches, from each Side of the Diaphragm, enter it.

It has Arteries immediately from the Aorta, and, sometimes, from the Coeliac, and a few small Twigs from the Lumbals and Adipose.

Verheyen mentions two Arteries and two Veins of his own Discovery; whereof the Right Artery, and the two Veins, are Branches of the Subclavians: The Left he dares not pretend to have sufficiently trac'd, but says, that, in the Diaphragm, the Arteries and Veins inosculate with the afore-mention'd of this kind; and that the Veins receive some Branches in their Return from the Diaphragm, from the Pericardium and Mediastinum.

It receives a pretty large Nerve from the Plexus Cervicalis on each Side, and from the second Pair of the Vertebrae, which, from a triple Root, form a considerable Branch, which distributes itself on each Side, through the whole Body of the Diaphragm.

In Inspiration, the Diaphragm descends towards the Abdomen, which is its proper Motion; which, as a Muscle, is Contraction. In Inspiration it is relax'd, and drawn upwards; and makes a concave-convex Figure; the concave Side toward the Abdomen. By this Alteration of Posture, it enlarges the Cavity of the Thorax in Expiration; and, at the same time, lessens the Cavity of the Abdomen, acting perpetually upon all the Contents thereof, and assisting them in the Performance of their respective Functions, particularly the Stomach: It also draws the Cartilages of the spurious Ribs inwards, towards the Vertebrae, depresses the two inferior spurious Ribs, assists in the Expulsion of the Excrements, and of the Fœtus in Parturition.

DIAPHROS, διαφρῶς. from ἀφρός, Froth; in *Galen's Exegesis*, is expounded by ἀραιζων, frothy.

DIAPHTHORA, διαφθορά. from φθείρω, to corrupt; in *Hippocrates* signifies a Corruption of the Fœtus, an Abortion. The same is often expressed by φθορά, and, in the Beginning of the sixth Epidemic, by ἀποφθορά, which *Galen* expounds by διαφθορά and ἀμβλωσις, "Abortion." The Verbs διαφθείρω; and φθείρω, are often us'd in the same Sense.

DIAPHYLACTICOS, διαφυλακτικός. deriv'd from φυλάω, to keep; is of the same Import as *Prophylacticos*, preservative.

DIAPHYSIS, διάφυσις, is an Interstice, Division, Partition, whatever intervenes between things. διάφυσις, in *Hippocrates, Lib. de Fraet.* as *Galen* explains it, signifies a certain nervous and cartilaginous Protuberance in the Middle of the Joining the Os Tibiae with the Os Femoris, which enters that large Sinus, and makes a Separation between the lower Heads and Processes of the Os Femoris, which are inserted into the Sinus of the Os Tibiae. This Substance only appears in recent Carcasses; for it withers after Death. In *Mochl.* where he writes, πλευραὶ δὲ κατὰ τὰς διαφύσεις τῶν σπονδύλων νευρίω περιπεφυκάσιν, "the Ribs at the *Diaphyses* of the Vertebrae are connected by a nervous Substance," by the *Diaphysis* we are to understand the Interstices, Intervals, Chinks, superficial Cavities, or Sinuses, which are cut in the Bodies of the Vertebrae, at the Roots of the transverse Apophyses, for the Reception of the round Heads of the Ribs; and those double Sinuses, in which the Ribs make a double Dearticulation, are called by that Name. The transverse Processes, or Apophyses themselves, may also be called *Diaphyses*, as growing in the Spaces between the Vertebrae, and join'd to the Ribs by a double Diarthrosis. In the same Book, τὸ εὖθος διαφύσεις ἔχον πλαγείας, "the Breast having oblique *Diaphyses*," where the Ribs are connected with it, imports, by *Diaphysis*, what possesses the Partitions or Intervals, that is, the Cartilages at the Sides of the Bones of the Sternum, by which they are join'd by Synarthrosis with the Ribs; or else the Sinuses, which are indented at the Sides and Joints of the Bones of the Breast, and into which the Ribs, by their cartilaginous Part, are inserted. Again, in the same Book, ἐκ τῆς διαφύσεως τῶν πρὸ πήχους ὀστέων, "from the Space between the Bones of the Cubit," a torpid Nerve is said to proceed. And (*Lib. περὶ τυχῆς*) διαφύσεις are the Intervals, Distances, and Partitions, by and into which numerous and large Cavities of a Body are divided. The Word διάφυσις also, in *Hippocrates*, signifies the Pedicle of a Fruit. *Lib. περὶ ἐλαμῆν.*

DIAPISSELEON. The Name of a Composition in *Marcellus Empiricus, C. 35.* in which liquid Pitch is a capital Ingredient.

DIAPLASIS, διάπλασις, from πλάω, to form. Conformation. It is used to express the Replacing a fractur'd Bone, as near as is possible, in its natural Situation.

DIAPLASMA, διάπλασμα. An Unction or Fomentation, applied all over the Body. *Castellus.*

DIAPLOCE, διαπλοκή, from διαπλέκω, to complicate, to twill, or intermix. In *Hippocrates de Alimentis*, this implies a Mixture of the Aliments; or rather a Miscibility.

DIAPNE. An involuntary Discharge of Urine. *Castellus.*

DIAPNOE,

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DIAPNOE, διαπνοή, from διαπνέω, to perspire. Perspiration. Transpiration.

DIAPOREMA, διαπόρεμα, from διαπερίω, to be in Doubt. Anxiety in Distempers; the same as **ALYSMUS**, which see.

DIAPRASIMUM, διαπρασισιον. The Name of a Composition in *Trallian*, L. 5. C. 4. so called from πρᾶσις, Horehound, one of the Ingredients.

DIAPRUNUM. The Name of two Compositions, directed thus in the *London Dispensatory*;

The DIAPRUNUM LENITIVUM.

Take of new and ripe Damask Prunes, one hundred; boil them in a sufficient Quantity of Water till they are soft; then remove them from the Fire, and, when cold, drive the Pulp through a Sieve, and set by for Use. In the Liquor strain'd from the Prunes before pulping, boil one Ounce of Violet-flowers; and, after straining again, dissolve in it two Pounds of Sugar, and boil into a Syrup; to which add of the before-mention'd Pulp half a Pound; of Cassia and Tamarinds dissolv'd in a little of the same Decoction, and pulp'd, of each one Ounce: Boil them again over a gentle Heat, and frequently stir the Mixture: After which sift in the following Powders, of Coriander-seed, Rhubarb, Liquorice, and Marshmallow-roots, of each a sufficient Quantity, to make into a soft Electuary.

DIAPRUNUM SOLUTIVUM.

Take of the lenitive Composition of Prunes, four Pounds; of prepar'd Scammony, two Ounces five Drams; and mix them together into an Electuary. *S. A.*

These were Preparations of *Nicolaus Myrcpsus*, the first of which was receiv'd into the College Dispensatory, under the Title of *Diaprunum Simplex, rectius Lenitivum*; but the latter Part of it is here much abridg'd of many superfluous Ingredients, as the Spodium, Barberries, and many other things of the like Nature. But neither of these are hardly ever prescribed or made.

DIAPSORICUM. The Name of a Collyrium in *Marcellus Empiricus*, Cap. 8.

DIAPTERNES, from πτέρνα, the Heel. A Medicine made of the Heels of Animals, and Cheese. *Castellus* from *Guilielmus Budæus*.

DIAPTEROSIS, διαπτέρωσις, from πτερόν, a Feather. The cleaning the Ears with a Feather.

DIAPYEMA, from πῦον, Pus. An Abscess, or Suppuration. See **ABSCUSSUS**.

DIAPYETICA. Suppurating Medicines.

DIARRHODOMELI. The Name of a Composition in *Trallian*, L. 7. C. 4. prepar'd of the Juice of Roses, Scammony, Agaric, Pepper, and Honey.

DIARIA Febris. A Diary Fever; one which continues only one Day. It is the same as **EPHEMEROS**.

DIAROCHE, διαροχαι. The Interstices betwixt the Circumvolutions of Bandages. *Erotian*.

DIAROMATICUM. A Medicine compounded of Aromatics.

DIARRHAGE, διαρραγή. A Fracture; in particular, of the Temporal Bones.

DIARRHODON. A Name for a great many Compositions, in which Roses are the principal Ingredient. In the old College Dispensatory, one of this sort is directed under the Title of *Diarrhodon Abbatis*; but it is omitted in the last.

DIARRHŒA, διαρροια, from διαρρῶ, to flow thro'. It imports what in *English* we call a Looseness. See **ALVUS**, **DEJECTIO**, and **CHOLERA**.

A Diarrhœa is defin'd to be a frequent and plentiful Discharge of thin, watery, mucous, slimy, frothy, greasy, bilious, or blackish Matter from the Intestines, sometimes with, and sometimes without, a Mixture of Excrements. It is frequently attended with Gripings; but they are not essential to it. The Patient is weak, makes little Urine, has a depressed Pulse, impair'd Appetite, and is sometimes feverish.

OBSERVATION I.

A Child about a Year and a half old, who, for several Months, had laboured under a feverish Indisposition, a preternatural Appetite, a Flux, the Substance of which was mix'd with a whitish Matter, and a subsequent Leanness and Extenuation, was at last reduc'd to such a low State, as to fall a Sacrifice to these Symptoms.

Upon opening the Body, the Liver appear'd so preternaturally large, as almost to equal that of an Adult; for it possessed the whole Cavity of the Abdomen; and the Substance of it was found scirrhus. The Gall-bladder was also preternaturally large, and as long as one's fore Finger. The Condition of the Spleen was found to be the same with that of the Liver; for it was every-where full of very hard tartareous Spots. The Glands, dispersed through the whole Mesentery, were found

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scirrhus; which Circumstances sufficiently accounted for the Death of the Patient. *G. Theophilus Bierlingius Miscell. Cur. Anno 1671. Observat. 157.*

OBSERVATION II.

A certain Man, after labouring under a Flux for six Years, at last died; and, upon laying open his Body, his whole Liver was found full of Impostumations, and a Part of the Mesentery destroyed. *Hollerius, Cap. de Alvi Fluxibus.*

OBSERVATION III.

A certain Man, of thirty Years of Age, happening to die of a Diarrhœa, whilst we were laying open his Body, and attempting a Separation of the Liver from the Diaphragm, to which it adher'd for a considerable Space, before we opened the Liver, there appear'd a large Tumor of that Species called Atheroma. This Tumor was situated in the convex Part of the Liver, near the posterior Region of the Diaphragm, hard by the Vena Cava. It was of a round Figure, in Bulk almost equal to one's Fist, and free from the rest of the Parenchyma of the Liver. It weigh'd five Ounces six Drams and thirteen Grains. Its Coat was as thick as the true Skin. It contain'd two Kinds of Matter, both of them thick, and very little fluid. The one resembled a pellucid Jelly, and the other was like thick Cream, or a white Poultice. *Boneti Sepulcr. Anat.*

OBSERVATION IV.

A certain German Prince, of two Years of Age, happening to die of a Diarrhœa, accompanied with an Atrophy, and other Symptoms, upon laying open his Body, we found his Liver hard, whitish, of an uncommon Bulk, and weighing seventeen Ounces and a half. Between this Organ and the Duodenum, near the Mesentery, there was a Collection of blackish Blood. The Gall-bladder was preternaturally large, and so firmly adhering to the Substance of the Liver, that it could not be freed from it without injuring it. In the Gall-bladder itself there was not a yellow Humour, but a certain greenish black Matter, like that which, during his Life, he had copiously discharged by Stool. Besides, his Liver was very little, and closely adherent to the spurious Ribs and Diaphragm. Hence we may easily understand, in what manner the Functions of the Liver might be disordered. The Stomach and Intestines were in their natural State, but contained no Excrements, and were somewhat distended with Flatulencies.

OBSERVATION V.

A certain Lawyer, after labouring for a considerable while under a Diarrhœa, at last died consumptive; and, upon laying open his Body, we found a large pendulous Tumor adhering to the lumbar Muscles on the Right Side.

OBSERVATION VI.

A certain Gentlewoman, about Ten o'Clock in the Morning, complain'd of a troublesome and uneasy Flux. I persuaded her to go to Bed, because Motion had a Tendency to increase her Pain, and prevent the Discharge of the Excrements. Her Stools were chylous, white, liquid, discharged in such large Quantities, that she fill'd a large Basin every time she went to Stool. Terrified at this Symptom, I desired a Consultation of the most experienced Physicians: Upon which we prescribed astringent Liniments, medicated Bags, Julaps, and next Day an Infusion of Rhubarb. By her frequent and copious Stools, her Strength was gradually impaired, and, before Midnight, she died, when she little suspected such an Accident.

In order to investigate the genuine Cause of so sudden and unexpected a Misfortune, I beg'd the Body might be laid open; upon which we found the Bottom of the Stomach ulcerated. *Riolanus Part. Meth. Med. Sect. 3. Tract. 1.*

OBSERVATION VII.

A certain Youth, about eighteen Years of Age, was seized with a deprav'd Appetite, eating Stones and Rubbish, and at last fell into a slow and gentle Fever. In Process of Time his Stomach began to throw up its Contents, and he was seized with a Flux. This Complication of Disorders in a few Days put a Period to his Life.

Upon laying open the Body, we found a Callus situated among the meseraic Vessels, by which, when they were so obstructed, that the Blood could be conveyed no farther, the Patient must necessarily die. *Benivenius de Abditis, Cap. 37.*

OBSERVATION VIII.

A certain Gentleman of Distinction, about thirty Years of Age, of a melancholic Constitution, highly subject to Catarrhs, and addicted to the immoderate Use of Wine and Summer Fruits, was at last seized with a Vomiting and a Diarrhœa, which were now-and-then succeeded by a bloody Flux; by which means his Strength was gradually so exhausted, that he died on the tenth Day.

Upon laying open the Body, I found seven or eight small Stones

Stones as large as Chiches, in that Part of the pancreatic Duct, where it terminates in the Intestines. *Regnerus de Graaf Traët. de Succo Pancreatico, Cap. 7.*

OBSERVATION IX.

A certain Clergyman of Distinction, being, for three Weeks, afflicted with a highly bilious Diarrhoea, at last fell a Sacrifice to his Disorder.

Upon laying open his Body, I found in his Gall-bladder, three small hard Stones; tho' at the same time, during the whole Course of his Disease, he had frequently discharged highly bilious Stools, which certainly were supplied from the biliary Duct, which leads directly from the Liver to the Intestines. *Riolanus Anthropol. Lib. 2. Cap. 20.*

OBSERVATION X.

At Montpelier I had an Opportunity of seeing a Woman laid open, who, for fourteen Years, had been afflicted with a Diarrhoea, which, however, for seven Months before her Death, had been so violent, that she was obliged to go to Stool several times in a Quarter of an Hour.

Mr. *Gintelius*, by whom the Body was laid open, could find no other Cause for her Death, than a Petrification of the Bile, which had formed itself into a hard and unequal Stone in the Gall-bladder, which it distended far beyond its preternatural Dimensions. *D. Creterus, Zood. Med. Gal. an. 3.*

OBSERVATION XI.

I have seen the Bodies of several Patients, who died of Diarrhoeas, laid open, whose Intestines were thick, tumid with Blood, and, as it were, formed into Holes like Honey-combs. Venesection, and the due Use of Emetics, would, in all Probability, have contributed much to the Cure of these Patients. *Guarimonius, Consultat. 4.*

A Flux of the Belly, where the Stools are liquid, and more frequent than usual, in the Beginning, is not so much to be regarded; but this Disorder is sometimes attended with slight Pains, sometimes with very severe ones. It is often most advisable for Health to let it have its Course for one Day, or even more, provided there be no Fever, and the Flux ceases within seven Days; for by this means the Body is cleansed, and the noxious Matter evacuated, to the great Benefit of the Patient. But to endure it too long is dangerous; for sometimes it excites griping Pains, with feverish Disorders, and exhausts the Strength.

The first Day it is sufficient to keep quiet, without attempting to repress the Efforts of the Belly. If the Flux ceases spontaneously, you may go into the Bath, and take a little Food; but, if it continues, it will be best to abstain, not only from Eating, but also from Drinking. The next Day, if the Looseness perseveres, keep quiet as before, and take a little astringent Food. The third Day, go into the Bath, and use vehement Frictions of every Part, except the Belly; hold your Loins and Scapulae to the Fire; take some Food of a binding Quality; and drink pure Wine, but moderately. If the Flux still continues the next Day, eat more freely, and take a Vomiting; and, in short, resist the Disorder by Hunger, Thirst, and Vomiting, till you have subdued it; for it is scarcely possible, after the joint Use of such effectual Means, for the Belly not to be contracted and bound.

Another Way for suppressing a Looseness, is to make a Supper, and afterwards to take a Vomiting; to keep in Bed the next Day; in the Evening to be anointed, though but slightly; and then take about half a Pound of Bread sop'd in pure *Aminæan* Wine. After this, eat something roasted, especially a Bird; and, upon this, drink the Wine before-mentioned mixed with Rain-water. Continue this Course for five Days together, and then take another Vomiting. *Aesclepiades*, contrary to former Authors, prescribes cold Liquors, and even such as are extremely cold, to be taken every Day. I believe, every Man ought to trust his own Experience, whether it be fittest for him to drink cold or hot Liquors.

Sometimes it happens, that the Disorder, being neglected for several Days together, becomes somewhat difficult to cure. In this Case, you must begin with a Vomiting; the next Day in the Evening be anointed in a warm Place; take a moderate Quantity of Food; drink pure Wine of the roughest sort; and apply Rue with Cerate to the Belly. In this Affection of the Body, neither Walking nor Friction are required; but Riding in a Chariot or Waggon, or, which is better, on Horseback, is of Service; for nothing more strengthens the Intestines.

If it be necessary to have recourse to Medicines, the most proper Remedy is what is prepared of Apples. In the time of Vintage, put into a large Vessel wild Pears and Apples; if they are not to be had, take green *Tarentine* or *Signine* Pears, with *Scandian* or *Amerine* Apples, Myrrharia, [a sort of Pears, so call'd from their Smell, *Plin. Lib. 15. Cap. 15. Musk-pears*] Quinces, Pomegranates with their Rinds, Services, and principally that Species which we call *Terminalia*: Let these Fruits take up

a third Part of the Capacity of the Vessel, and then fill up the same with Must: Boil the Contents all together, till they are dissolved, and concur in forming, as it were, one Mass. This Preparation is not ungrateful to the Taste, and, taken upon Occasion, gently binds the Belly, without injuring the Stomach: Two or three Spoonfuls are enough for a Dose. Another more potent Remedy is to take Myrtle-berries, press out the Juice, and boil it to a tenth Part; of which take an Ounce [*Cyathum*] for a Dose. A third Remedy, when it can be prepared, is as follows: Take a Pomegranate, and excavate it by taking out all the Inside; then picking out all the Seeds, put the intermediate Membranes into the Shell again, and pour thereon raw Eggs, and stir them about with a Spattle: Then set it upon the Coals, and the Moisture which is in it, while it continues, will keep it from burning: When it begins to be dry, remove it, and eat the Contents with a Spoon. This Remedy is made more effectual by some Additions, as when it is thrown into Dishes highly seasoned with Pepper, or mixed with Salt and Pepper, and so eaten. They prepare also a Gruel for this Purpose, in which they boil Part of an old Honey-comb. Also *Lentils* boil'd with *Malicorium*, and the Tops of *Brambles* boil'd in Water, and eaten with Oil and Vinegar, are effectual in this Case; and so are Decoctions of Dates or Quinces, or dry Services, or Bramble-tops; I mean on such Occasions as require an astringent Potion. Half a Pint of Wheat boiled in austere *Aminæan* Wine, and given to the Patient fasting and thirsty; and the Wine afterwards supped, may justly be accounted one of the most potent Remedies in this Disorder. They prescribe also *Signine* Wine, or austere resinated Wine, or any other austere sort of Wine. They also bruise a Pomegranate with the Rinds and Seeds, and mix it with the Wine before-mentioned, which may be supped pure, or diluted. However, there will be no Necessity of using Medicines, unless the Distemper be violent. *Celsus, Lib. 4. Cap. 19.*

A Flux of the Belly, or a Discharge of pure and unmix'd Humours, without Inflammation, Exulceration, or considerable Sense of Pain, is by the *Greeks* called *διάρροια*, "a Diarrhoea." In this Disorder, there is an Evacuation of several sorts of Humours, sometimes of Phlegm, sometimes of Bile, either yellow or black. The Origin, from whence this Flux proceeds, is seated in various Parts: If there be a Defluxion of Phlegm from the Brain upon the Belly, the Looseness is most urgent by Night, and after Sleep; and the Discharges, according to *Hippocrates*, are thin and spumous. The Flux also has its Intervals, and is preceded by a Distillation and Pains of the Head, especially after a sudden Heat or Cold. The same Humour, if the Flux be owing to some Disorder of the Intestines, Mesentery, or Stomach, is thick and mucous; and is discharg'd principally by Day, without any certain Intervals. When yellow or Lemon-coloured, an ardent, and often spumous Bile flows from the Liver into the Belly; it molests the Patient by Intervals in the Night, without any considerable Pains or Gripings of the Belly; but this Flux is usually of a shorter Continuance than what is excited by a Disorder of the Stomach. The same Consequences usually follow from a Flux of black Bile from the Spleen or Mesentery into the Belly; but this Case is far more difficult than the former, as proceeding from a worse Humour. But here we ought to distinguish between this Humour, and Blood concentered for want of Motion, and by long Stagnation, highly torrefied, blackish, and very much resembling Tar; for, if this vitiated Blood, and not a melancholy Humour, be the Cause, the Disorder is attended or preceded by sanguineous Vomiting, which stain Linen red; but nothing of this happens in a Flux of black Bile.

A Looseness, for one Day, is often healthy, and even for several Days, provided it stops within the seventh Day, without returning upon the Patient, and is not attended with a Fever, or a vehement Thirst: But the Danger proceeds from the Length of the Disease; for sometimes it excites Gripings, and feverish Disorders, and exhausts the Strength. Now the Accession of a Fever, and a Relapse into the Disease, after its Cessation, with its growing more obstinate, and likely to continue upon the Patient, must be dangerous, whether the Matter of the Flux be bilious, or crude and pituitous. There is as much Danger from an Inflammation of the Liver, Præcordia, or Belly, as from various or mix'd Stools of long Continuance, and attended with Pain.

A Flux cannot be suppressed, before its due Time, with Safety; for hence arise, Disorders of the Stomach, Fevers, and Inflammations of the Viscera; and, from a Diversion of the morbid Matter to the superior Parts, proceed Pains of the Head, Madness, or Lethargy, according to the Nature of the Humour. When the Stools are liquid, it is best when they are not discharg'd violently with Noise, but are evacuated in a gentle Manner, by degrees, nor are too frequent; for, by often going to Stool, the Patient is fatigu'd, and kept waking. If the Stools be copious, as well as frequent, there is Danger of Fainting. A Looseness, after a long Duration, succeeded by spontaneous Vomiting, ceases; a Looseness ceasing in Season is no way injurious; it is known to be stopped, when the

Belly

Belly being contracted, its Motion is no longer felt by the Hand laid thereon; and, besides, the last Stool was succeeded by no Flatus. It is good to have an Alteration in the Stools, if it be not a Change for the worse. Bilious Discharges stop upon the Accession of Deafness; and, on the contrary, a Deafness has its Solution by Evacuations of Bile. Persons who hammer, are subject to long Fluxes of the Belly, which give way to Vomiting. In any Flux, acid Eructations, not beginning with the Distemper, but acceding afterwards, are a good Sign. The Belly bound for several Days indicates either a sudden Evacuation, or the Approach of a Fever. The Hiccoughs, or Loss of Appetite, under a Looseness, are bad. Persons much extenuated by an acute or chronical Disease, or from Wounds, or some other Occasion, and seized with a Flux of black Bile, resembling black Blood, die the next Day; for Fæces of this kind, spontaneously discharged, are the worst of Symptoms; and always so much the worse, as their Variety of Colours, and these not good ones, is greater; but it is better to have them brought away by Medicines, particularly when they are of various Colours. A Discharge of adust Bile, in the Beginning of a Disease, is mortal; and the Danger is no less, if, during the Evacuation in a Looseness, the Patient be seized with a Nausea, Vomiting, and Delirium; or, if he be so far exhausted as to have a constantly vermicular and formicating Pulse, which cannot be raised even by generous Food. If a Looseness come after a long Distemper, without at all mitigating the same, and the Patient be insufficient to support it, the Case is certainly dangerous. A Looseness, or Diarrhoea, occasion'd by a beginning Dropsy, or after an atrabilious Ulcer, or from an Exulceration of the superior Intestines, especially the Jejunum; or the Continuance of a Looseness, after a sudden Disappearance of Pustules; or its being grown to an Inveteracy in an old Person; or when a liquid Matter, like Water, is at first discharged, and, afterwards, a pinguious Humour, resembling an Ointment; all these Cases are to be dreaded equally with the preceding. A Discharge of Fæces, appearing as if they were cover'd with Oil or Fat, is familiar with those who labour under pestilential, burning, colliquative, and hectic Fevers, a Tabes, or Atrophy, and sometimes attends an Inflammation of the Viscera. Gripes are, very frequently, observed to proceed from a long-continued Diarrhoea, or one in which the Humours are evacuated pure and unmixed; and this Case often proves fatal to pregnant Women; or, if they escape, it is not without a Miscarriage. It is usual for such Patients, after they have been long afflicted with this Distemper, to be affected with a Swelling of the Feet. *Lomii Medicin. Observ.*

Diarrhoeas are frequently the direful Effects of Grief, and other exorbitant Passions of the Mind. They generally prove incurable, especially if the Mind continues long under the Influence of that Grief or Passion which first produc'd them; because, in this Case, they are, for the most part, succeeded by erratic Fevers, and Atrophies, which prove fatal to the Patient.

The Eruption of a Sweat, in Patient's labouring under a Diarrhoea, gives a proportionable Check to the Disease.

In Diseases of the Breast, in Women in Child-bed, and in Infants labouring under malignant Fevers, Diarrhoeas are highly bad and prejudicial.

The Cure of this Disorder is not to be begun by Astringents; since by this means we induce Obstructions of the Viscera and Intestines, which are with Difficulty remov'd, and which are at last succeeded by obstinate Dropsies.

As the eating of Flesh increases a Diarrhoea, the Patient ought, for this Reason, to abstain from it as much, and as carefully, as he possibly can.

Nothing has a more immediate Tendency to produce a costive State of the Belly, than the Use of Venery; as was long ago observ'd by *Hippocrates*, in the seventh Book of his *Epidemics*. *Aetius* also, in the eighth Chapter of his third Book, and *Paulus Aegineta*, in the thirteenth Chapter of his first Book, assert, that Fluxes are remov'd by the same Means. This was also observ'd by *Amatus Lusitanus*, in the forty-seventh Observation of his second Century. See *ACHROMOS*.

Those who are too much addicted to Study, or too keenly attach'd to the Affairs of the World, become costive; and this Misfortune is endemial, or peculiar to the *Roman* Climate.

The Inhabitants of this Country, by chewing Cinnamon throughout the whole Day, and swallowing the Saliva, in a short time cure the Diarrhoeas, the Languors of the Stomach, and the Dysenteries, with which they happen to be afflicted.

Purgative Medicines generally produce a dangerous Hypercatharsis, or excessive Purgings, which frequently brings on a sudden Fainting. By the Prescription of an old and experienced Physician, in one of our Hospitals, I was surpris'd to see a Diarrhoea both speedily and safely stop, by a Scruple, or a Dram, of the Theriaca, dissolv'd in a sufficient Quantity of Wine.

VOL. II.

In an inveterate Diarrhoea, a Dysentery, a Tenesmus, or a Relaxation of the Anus, the Fundament is to be expos'd to the Steam of Turpentine, thrown upon live Coals; by which means the Patient will be cur'd.

When in a Diarrhoea the Patients discharge, by Stool, a Saffron-colour'd Bile, resembling the Rust of Iron dissolv'd, or Brick-duft; 'tis always a fatal Symptom, as I have observ'd in many Patients, who all died. *Chefnau, Lib. 3. Cap. 6.*

A Diarrhoea, succeeding a violent Fit of Anger, is a lucky Circumstance; because, if this Effect is not produc'd, the Patient will, in all Probability, be seiz'd with a Fever.

I myself have often observ'd, and also been inform'd by others, that in some Diseases, especially of the chronical Kind, such as a Phthisis, and even in any other Disorder, the Patients are frequently seiz'd with an irresistible Stimulus to discharge their Fæces, and sometimes die at the very time this Discharge happens. *Baglivi, de Praxi Medica, Lib. 1.*

From CAROLUS PISO.

Most People, who are a little too regardless of their Health, and who do not take care to defend their Bodies from the Injuries of the Air, at the End of Autumn, when the Leaves begin to fall, find their Bodies more soluble, and perceive that their Stools are not only more liquid and aqueous, but also bilious and slimy, and that, sometimes, for several Days together. In the present and preceding Year, about the End of *August*, when Heat and Cold alternately succeeded each other, at different Hours of the Day, I observed many studious Persons, who liv'd temperately, and spent a great deal of Time on mental Speculations, to labour under Diarrhoeas, and to discharge an aqueous Sort of Excrements, call'd by *Hippocrates* *ὑδατόχλωρα ὑποχωρῶντα*, with a Mixture of a little Blood in some. Tho' a Diarrhoea of the same Kind frequently seiz'd me about the Middle of Autumn, in all the former Part of my Life; yet, in the Beginning of the Autumn, and during all the other Changes of the Seasons of the preceding Year, I only discharg'd liquid Excrements for one Day, and, soon after, nephritic Pains succeeded. But in the present Year, about the End of *September*, I was first seiz'd with very obstinate nephritic Pains, which were succeeded by a profuse Diarrhoea, which continued about a Fortnight; but, being commonly serous, I bore with it the more easily. In Bodies, which have a Redundance of Serum, in consequence of a Life spent in Ease, the Cold of the Autumn, whether in the Morning or the Evening, acting upon the Pores which are opened, either by the Heat of the Sun in the Day-time, or by the Warmness of the Bed; and, for that Reason, penetrating more deeply into them, drives, with great Force, the Serum both inwards and downwards from the Vessels on the Surface of the Body; for, because the serous Humours cannot thoroughly incorporate with the Blood, tho' they are mix'd with it throughout the whole Body, they are, in consequence thereof, more easily separated; and, after a Separation, because they are fluid and heavy, being reverberated by the Cold, they return into the larger Ramifications of the Vessels, and are convey'd thence to the Intestines.

Stools of this Sort ought not to be esteem'd preternatural, whether we consider, either the Quality and Condition of the Matter, its Course, or moving Cause: For, after the Serum has perform'd its proper Functions, it can be of no farther Use; 'tis nothing but an Excrement, and, therefore, ought to be evacuated any way.

But, as the serous Humours cannot find a free Passage thro' the Pores of the Body, when they are clos'd up by the Inclemency of the Air, 'tis but natural, that the lower Belly, and especially the large Intestines, should serve as a Sink to carry them off; and, therefore, such Diarrhoeas are not to be consider'd as preternatural; since there is no way left to get rid of the Redundance of Serum, but by being evacuated as other Excrements are; and 'tis well known, that a Redundance of Serum creates no little Uneasiness in our Bodies.

Lastly, if we consider the Occasion; which is only a cold State of the Air, a mere external Cause; upon this Account also, the Diarrhoeas here describ'd, ought not to be esteem'd preternatural: And, since this is the Case, the Consequences are not much to be apprehended.

But, on the other hand, since the Serum, by returning back through the Vessels, cannot fail to interfere with the Circulation of the Blood, in some degree, and even disturb the Distribution of the Chyle, and its complete Elaboration in the Intestines; and, therefore, must be inconvenient; it is proper, that the Patient should, with all convenient Speed, be freed from it.

In the first place, Patients ought to preserve themselves from the Injury of the Air, and sleep in a warm Place, whereby the Force of the moving Cause may be moderated; and, secondly, they should carry off the Matter of the Flux, both by a dry Regimen, and a Derivation of the Serum thro' the Kidneys; and, lastly, they ought to corroborate the Parts which receive the Serum: And these Designs will be answer'd,

partly by making use of some Wormwood-wine, diluted with a Decoction of Succory, or Chalybeate Waters, or old Conserve of Roses; and partly, by anointing the Abdomen with Oils of Chamomile, Roses, Mallow, or Wormwood.

'Tis very remarkable, what happened to my Brother, in the Month of *October* this present Year; for, tho' he had been rack'd with the Gout all the preceding Month of *September*, he fell into a very great and unusual Difficulty of Breathing, attended with a violent Stertor; and, after four Days, was seiz'd with a violent Flux, by which he seem'd to receive some Relief; but in this we were mistaken, for he died, the Week after, of a Suffocation.

'Tis to be observed, in the Beginning of continual Fevers, the principal Cause of which resides in the Liver, especially if there is any inflammatory Disposition, the Symptom of which is a Tension and Hardness of the Viscera, that Persons generally discharge aqueous and bilious Excrements, not only for a Week or two, but sometimes even for forty Days together.

And, to pass by Instances of People, who have labour'd under a Flux for a Week or two, I remember, that the Cardinal *de Giury*, whose Liver was greatly inflam'd, and affected with a Tumor, which by the Continuance of the Distemper became scirrhus, discharged liquid Stools, which were evidently bilious, in great Quantities, for the Space of forty Days.

And, the preceding Year, Baron *Ferdinand ab Honaufer*, being seiz'd with an inflammatory Disorder of the Liver, and a continual Fever, which recur'd three times in the Space of a Year, discharged aqueous and bilious Excrements, in large Quantities, thro' the whole Course of the Disease. When his Body was dissected, among other Signs of a Corruption of the Viscera, we observed in his Liver an extraordinary Tumor, the Surface of which, being about two Fingers Breadth, was altogether wrinkled and flaccid, and appear'd soft to the Touch; but the inner Part of it was hard and dry, like a Piece of Wood.

We need not wonder, that an Inflammation of the Liver should produce such large Quantities of Bile; for I remember that *Franciscus Poiratus*, an eminent Physician, being, in the Space of ten Months, quite worn out by an erysipelatous Inflammation of the Liver; a little before he died, vomited up, not without great Torture, and an intolerable Heart-burn, three or four Pound-weight of green unmixed Bile. In his dead Body the Liver was found to be scirrhus, and of a blackish-green Colour.

In continual Fevers, and particularly such as are consequent to an inflammatory Disposition of the arterial Blood, a Symptom of which is, a great Blackness and Dryness of the Tongue, especially if the Body has any remarkable Density, either on account of Age, or the Constitution of the Season; in all such Fevers, we know by Experience, that Discharges of liquid Excrements are usual, tho' not so bilious, as in some others. I remember the Case of a Patient, very much troubled with arthritic Pains, who, through the whole Course of a Fever, discharg'd by Stool a large Quantity of such Serum, tho' the Fever recur'd several times in the Space of a Year, and continued forty Days. But, tho' such Stools are truly symptomatical, as they come on with the Beginning of the Disease, and at the time of its Crudity, yet they are very serviceable, because they lessen the morbid Matter, which, at other times, is to be carried off either by Urine or Sweat; and therefore it ought not to be stop'd, since they are not usually excessive, but such as Nature may easily bear; and I have found by Experience, that the Violence of Fevers was always considerably diminish'd by them; excepting only such Fevers as are attended with an Inflammation of the Viscera, which, being generally mortal in themselves, render such Fluxes of no Effect; and, in this Case, there is no room left for any other Remedies, but such as we know by Experience to be not only astringent and corroborative, but, at the same time, to purge off the Serum, together with the Bile: Of this Sort, Rhubarb is the principal; therefore an Infusion of it, with a Decoction of Myrobalans, and other such Medicines, or a compound Syrup of Succory with Rhubarb, will be of considerable Use: These Medicines may be repeated every fourth Day to Advantage; and, in the mean time, Alteratives, such as Syrups of Poppies, the simple Syrup of Succory, or Conserve of Roses and Succory, may be also exhibited. But young Physicians ought not, after the Example of vulgar Practitioners, who mind only the Flux, Catarrh, or other Symptoms of little moment, to content themselves with the above Medicines, but should have recourse to other Remedies, which more immediately resolve a Fever or Inflammation, such as Venesection, and other such important Remedies; which some People generally neglect, to the great Danger of their Patients.

Besides the before-mentioned serous Stools, I have frequently observed, on the Decline either of intermitting or continual Fevers, Stools which were liquid, but, at the same time, of an ashy Colour, and as like a crude Lixivium, as Milk is to Milk.

When I attended the Medicinal Lectures at *Paris*, I observed, that upon the Decline of a Tertian Fever, I discharg'd such Stools; and, since that time, I have observed the like in many others. Concerning these, my Opinion is, that they ought to be look'd upon as critical and salutary; since by them the febrile Heat is perfectly remov'd, so that there is no further Danger of a Relapse; and such a Solution of Fevers as is not attended with Excretions, is not to be depended on; and I know by Experience, that such Evacuations will follow a considerable time after the Concoction of the morbid Humours, and not before. Mineral Springs have promoted this salutary Evacuation in many, who have got rid of long slow Fevers, consequent upon an Infarction of the Viscera, by drinking the Waters of *Berkenfeld* near *Deux-ponts*, which brought on a cineritious Flux. Lastly, the great *Hippocrates* observes, that a spontaneous aqueous Diarrhoea is the most salutary Crisis of aqueous Tumors, whether of the whole Body, which is call'd *Leucophlegmatia*, (for this, says he, is remov'd by a Diarrhoea) or of the Abdomen in particular: An aqueous Flux, says he, without Crudity, cures a recent Dropsy; but if a Diarrhoea does not happen at the Beginning of the Dropsy, and before the retentive Faculties are much weakened, it proves mortal to the Patient: Besides, Diarrhoeas in this Case ought to be profuse, and equal to the Disease; for no scanty Evacuation can possibly prove critical. Discharges of this kind must necessarily produce the Relief of the Patient; because, by their means, only such Humours as are peccant, are evacuated. I observed such aqueous Stools, spontaneously recurring at different times, in a Jesuit; by means of which, an inveterate Ascites, of several Months Continuance, was kept down, and which, at last, by the Patient's observing an exact Regimen, decreas'd by degrees, and was entirely remov'd. *C. Piso*.

Ettmuller informs us, that a Diarrhoea, the Matter of which is pinguious and oily, if not produc'd by the Aliments, arises from a Colliquation and Melting down of the Fat of the Body. See DEJECTIO.

In this Disorder, arising from whatever Cause, the Stomach is to be strengthen'd with burnt Wine, Aromatics, the Vinum Absynthites, Preparations of Quinces, and corroborative Fomentations externally: Sudorifics, also, mix'd with such Medicines as absorb Acids, are to be exhibited. The Effervescence of the Humours is, by proper Medicines, to be check'd and abated; since, when this Effect is produc'd, the Diarrhoea of course ceases.

In all Diarrhoeas and Dysenteries, whether of the benign or malignant Kind, a Decoction of the Roots of Tormentil is a Medicine, according to this Author, of all others the most efficacious. Quinces, also, and Medlars, together with the Marmalades prepar'd of them, are by him highly recommended in this Disorder. Jellies of Hartshorn dissolv'd in the Patient's ordinary Drink, and Gum Arabic dissolv'd in the white Decoction, are by him accounted Specifics in epidemical Diarrhoeas. When this Disorder is attended with violent Gripes, and a Tenesmus, 'tis expedient to inject a Glyster prepar'd of warm Milk, and the *Theriaca Andromachi*. In habitual Diarrhoeas, protracted for a long time, Chalybeates, grateful Aromatics, and warm Baths, are, of all other Medicines, the most efficacious. Stubborn and long-continued Diarrhoeas, may, he says, be cur'd in the same manner with a Dysentery, by Doses of Ipecacuanha, often repeated at proper Intervals, not neglecting the Use of other proper Remedies at the same time.

Opium, according to Dr. *Cockburn*, is of little or no Use in the Cure of serous Diarrhoeas; since, generally speaking, it only eases the Pain, and gives Rest; by which means, the Stools discharg'd are fewer in Number, but larger, and equally thin and liquid as they were before, and, at the same time, more fetid.

Walker informs us, that during the Siege of *Londonderry* the Soldiers were so far reduc'd, that they were fond of eating a Mixture of Starch and Suet; by the former of which, they were furnish'd with an excellent Cure for the Diarrhoea; and by the latter preserv'd from Starving, and defended against the Tyranny of Hunger. *Wainwright*, in his mechanical Account of the Non-naturals, informs us, that a woollen Shirt contributes very much to the Cure of an habitual Diarrhoea: And *Fuller*, in his *Medicina Gymnastica*, for producing the same Effect, recommends Riding on Horse-back, or in a Chaise; probably from *Celsus*.

There are several other Medicines, which are in a Diarrhoea sometimes prescrib'd with good Success; such as the *Laudanum liquidum cydoniatum*, the *Cataplasma stomachicum*, the *Forus astringens*, *Epithema stomachicum*, *Succul. stomach.* the *Decoctum Catechu compositum*, the *Decoctum Fracastorii*, the *Decoctum fissens*, the *Electuar. Corinth.* the *Enema de Malicorio*, the *Expressio Rosacea*, & *Alitura Coral.* and the *Elect. ad Diarrhoeam*.

The *Conessi* Bark is esteem'd a Sort of Spec. sic, administer'd in the Manner directed under the Article *CONESSI*.

Clutton recommends the following Glyster, in Diarrhœas either with or without a Fever, as preferable to Restrictants of any Kind :

Take of the Confection of Starch, four Ounces : Let it be injected warm, once or twice a Day.

If the Flux is bloody, or the Bowels exceedingly relax'd, let the Confection be thicker, and an Ounce of *French Brandy* be added to it.

Calcin'd Cork is much recommended in a Diarrhœa, and seems to be a very likely Medicine. 'Tis known, that Cork will poison a Dog; and, upon Dissections of Dogs thus poison'd, it appears that the Cork turns to a viscid whitish Mucus, which contracts the Intestines, and, as it were, glues them together.

Wheat Flour ty'd up close in a Linen Bag, and boil'd in Water for six Hours, is excellent in a Diarrhœa, eaten with Milk.

Solid Millet, (*νέγυξ & σεσέλις*) boil'd in Oil, stops crude and liquid Stools. *Hippocrates*.

Kermes Mineral, exhibited in small Doses, gradually changes the ferous and crude Fæces, and renders them of a more bilious and thick Consistence, by attenuating the viscid Bile, and so disposing it to pass off by Stool. *Geoffroy*.

A colliquative Diarrhœa, that is chronical, is to be cured by Riding : One proceeding from Acrimony, is better cur'd by Medicines. *Fuller's Medicina Gymnastica*.

Morton asserts, that nothing more effectually promotes a colliquative Diarrhœa in Fevers, when once begun, than Beer, Posset-drink, or any thing else which has Beer in it.

Hippocrates, *Aph. 12. Sect. 5.* pronounces, that in a Consumption, when the Hairs of the Head fall off, a succeeding Diarrhœa carries off the Patient. And *Arctæus* affirms more generally, that a Diarrhœa, happening in a Phthisis, is fatal.

Arctæus also observes, *de Causis & Signis Acut. L. 2. C. 7.* that a plentiful bilious Diarrhœa saves the Lives of those, to whom it happens in an Inflammation of the Liver ; but that, three Weeks after, the Liver has a Tendency to Suppuration.

The same Author remarks, *de Causis & Signis Acut. L. 2. C. 1.* that a bilious and frothy Diarrhœa resolves a Peripneumony, provided it be considerable.

Again, *de Causis & Signis Acut. L. 1. C. 10.* he represents a bilious Diarrhœa on the seventh Day of a Pleurisy, as a salutary Sign.

In *L. 2. C. 12. de Causis & Signis Acut.* he informs us, that a *Satyriasis* is frequently resolv'd by a pituitous and bilious Diarrhœa.

Chalybeate Waters, if taken in the Quantity of three or four Quarts, for one, two, or three Days, is of itself a most excellent Medicine in Diarrhœas, and a very good Preparative before Opiates. *Jones's Mysteries of Opium reveal'd*.

Sydenham, speaking of the epidemical Fever, which reign'd in 1667. and 1668. has the following Remark : Neither, says he, did the Looseness, which often accompanied this Fever, hinder my proceeding closely in the above-mentioned Method ; having experienc'd, that nothing proved so effectual in stopping this Discharge, as Bleeding, and cooling the Blood by Barley-water, Whey, and other things above enumerated, inasmuch as this Looseness proceeded from inflammatory Vapours, separated from the Blood thro' the mesenteric Arteries into the Intestines, and vellicating these Parts.

A little after, he says, that before this Fever went quite off, and particularly in the Year 1668. a Looseness became epidemical, without any manifest Sign of a Fever ; for the Constitution at this time inclin'd to the Dysentery, which prevail'd in the following Year. Nevertheless, I judg'd this Looseness to be the same Fever with the then reigning variolous Fever ; and that it only differed in Form, and appeared under another Symptom : For, having observ'd, that a Chills and Shivering likewise ordinarily preceded this Looseness ; and further, that it generally arose from the same evident Cause with the then reigning Fever ; it seem'd probable to me, that this Fever, with the Looseness, proceeded from an inflammatory Disposition of the Blood, determin'd towards the Intestines, and irritating them to this Discharge ; whilst the Blood, in the mean time, by this Revulsion, was freed from the ill Effects its Disposition would otherwise have occasion'd, without any visible external Sign of a Fever. 'To this we may add, that the Parts below the Pit of the Stomach were so tender, as not to abide the Touch ; which Symptom happen'd in the Small-pox, and Fever of this Constitution ; and the same Pain and Tenderness of the Flesh often reach'd to the Epigastrium ; and sometimes there was an Inflammation, which ended in an Abscess, and destroy'd the Patient ; all which apparently shew'd this Looseness to be of the very same Nature and Essence with the then reigning Fever : And this Opinion of

mine was further confirm'd, from the good Success, which Bleeding, and the Use of a cooling Regimen, always had in stopping this Looseness ; for it readily yielded to this Method, which is the same we use in the Cure of the variolous Fever : But, when it was treated in a contrary Manner, either by giving Rhubarb, and other lenient Purgatives, to carry off the acrimonious Humours, suppos'd to irritate the Intestines to these Discharges, or by administering Astringents ; this Disease, tho' naturally gentle, frequently prov'd mortal, as the Bills of Mortality of the current Year sufficiently testified. *Sydenham*.

All Sorts of Fluxes are very endemic in the *West-Indies*, but more especially in the rainy Seasons ; and may be imputed chiefly to the Negligence of those, who too unwarily expose themselves to the Injuries of the wet Weather ; by which means, Perspiration being interrupted, the thin Part of the Blood, which should have been exhal'd through the Pores of the Skin, is thrown upon the Bowels, and thence discharg'd in loose Stools. This appears plainly, from the great Number of Negroes, and the poorer Sort of white People, who, in these Seasons, are much more afflicted with this Distemper, than such, whose Condition of Life does not subject them to the like Inconveniencies. Besides catching Cold, there are other antecedent Causes of a Diarrhœa ; the principal of which are, an immoderate Use of crude sugacious Fruits, unwholesome Food, and Meats of difficult Digestion ; all which, by stimulating the Intestines, will likewise occasion a Diarrhœa.

When these last-mentioned Causes concur with a damp, rainy Season, the Bowels will not only be loaded with the thin Juices, which ought to pass off by Perspiration, but they will also, by reason of the Stimulus lodged in them, be continually solicted to expel their Contents more frequently, and of a thinner Consistence, than usual. A diminished Perspiration will likewise contribute towards enlarging the Orifices of the hepatic and pancreatic Ducts ; and, on this account, the Secretion of their respective Juices will be more plentifully made into the Intestines ; and hence we have an additional Cause of a Looseness. These Circumstances, I think, are sufficient to account for every Species of a Diarrhœa ; and, when we are once fully ascertain'd of the Cause, we need not be much at a Loss what Method of Cure ought to be pursued in each Species.

Fluxes have, very often, been neglected in the Beginning, from an Opinion, that they are salubrious, and of Service to the Constitution, by affording an Outlet to some offending Matter, which, if retained, would have proved prejudicial. This Remark may, in some Cases, be very true ; but it is not to be confided in, without great Caution, in the *West Indies*, where a simple Flux frequently rises up into an obstinate Dysentery, in three or four Days ; and, when the Diarrhœa is suffered to continue any time, it too commonly terminates in a Leucophlegmatia, or Dropsy, to which Disease People in these Parts of the World are exceedingly disposed.

But as a Diarrhœa is sometimes truly critical, and contributes a great deal towards the Cure of other Distempers, such a Diarrhœa ought, by no means, to be suppress'd, so long as the Strength of the Patient can support him under it. The most general Rule I know, in this Case, is to observe diligently, whether the original Disease receives any considerable Abatement from the supervening Looseness ; which if it does, we have then Reason to believe, that the original Disease was occasioned by the Retention of the Matter which is evacuated by the Diarrhœa, and therefore the Diarrhœa ought not to be checked.

Dr. Cockburn has justly observed, that a Fever may be a Symptom of a Diarrhœa, as well as a Diarrhœa may be a Symptom of a Fever.

In a Diarrhœa arising from sharp fermenting Juices in the Primæ Viæ, which accelerate the peristaltic Motion of the Bowels, the first Indication is to make a Discharge of the stimulating Matter ; which may be effected by a Dose or two of Rhubarb, if timely administer'd, in the following manner :

Take of the best Rhubarb, half a Dram ; and of the Powder of Cinnamon, twelve Grains : Mix for a Dose, to be taken in the Morning ; using, at the same time, a proper Regimen. Or,

Take of the Tincture of Rhubarb, prepar'd with *Madera* Wine, four Spoonfuls ; and of the solutive Syrup of Roses, one Ounce : Mix for a Dose. Upon going to Bed, the Patient may take fifteen Drops of liquid Laudanum, in two or three Spoonfuls of Barley Cinnamon-water ; and the Rhubarb is to be repeated till the Looseness abates, which frequently happens after the second Dose.

But, as the Stomach itself is often in Fault, by transmitting an ill-concocted Saburra to the Intestines, the De-

fects

fects of this Organ are to be considered and amended. For this Purpose, a Dose of the Salt of Vitriol, or of Ipecacuanha-root, may be administer'd; and when the Stomach has been cleansed by this Operation, its Tone may be strengthened, and its Fibres fortified, by some of the following Remedies:

Take of *Virginian Snake-root*, two Drams; of *Gentian*, half an Ounce; of *Orange-peel*, one Ounce; of *Winter's Bark*, and *Galangals*, each one Dram: Make into a Decoction with three Pints of *Madera Wine*, of which take five or six Spoonfuls twice or thrice a Day. Or,

Take of the Roots of *Gentian* and *Sweet Flag*, each two Drams; of the Tops of the lesser *Centaury*, two Pugils; of *Chamomile-flowers*, one Pugil: Infuse in two Pints of warm *Spring-water*; and with the *Liquor*, when strained off, mix four Ounces of compound *Gentian-water*, and two Ounces of *Chalybeate Wine*. Of this Preparation, let the Patient drink four Spoonfuls, thrice a Day.

If the *Diarrhoea* continues to be violent, it will be proper to mix *Astringents* with the *Rhubarb* in a *Bolus*.

Take of the Powder of *Rhubarb*, half a Dram; and of *Diacordium*, a sufficient Quantity for making a *Bolus*; to which add two Drops of the chymical Oil of *Cinnamon*.

When Cold is the productive Cause of a *Diarrhoea*, the Seat of this Disease is more remote than in the former Case; and the Stools are generally very thin, serous, and watery. This Matter is convey'd into the Bowels, by reason of the insensible Perspiration being suppressed, some other of the Secretions interrupted, or the Blood having contracted an undue Crasis. If this be the Circumstance of the Patient, we must endeavour, in the first Place, to unload the Stomach and Bowels, by evacuating the Flux of Humours forced upon them; which is to be performed by a Vomit with *Ipecacuanha*, and afterwards a *Rhubarb-purge*. But as this sort of *Diarrhoea* is not uncommonly attended with a Fever, or at least with feverish Symptoms, it is often found necessary to let Bleeding in the Arm precede the other two Operations, especially if the Person be sanguine and plethoric.

This being premised, we must have recourse to *Diaphoretics*, *Astringents*, and *Opiates*.

Take of the compound Decoction of *Japan Earth*, one Pint; and of the *Species pro Confectione Hyacinthi*, half an Ounce: Mix these together, and give the Patient three Spoonfuls after every Stool. Or,

Take of the *Decoction Fracastorii*, one Pint; *Dragon's-blood*, half an Ounce; and *Gum Arabic*, two Drams: Mix all together, and let the Patient drink three or four Spoonfuls, as his Condition requires. Or,

Take of the *Confectio Fracastorii*, two Scruples; of the Powder of *Gum Arabic*, one Scruple; and of the Syrup of *Lemon-peel*, a sufficient Quantity for making a *Bolus*, to be taken every four Hours, drinking after it a few Spoonfuls of the following Julap:

Take of *Barley Cinnamon-water*, six Ounces; of *Mint-water*, two Ounces; and of the Syrup of *Lemon-peel*, two Ounces: Mix all together for a Julap.

The Patient may use, for his common Drink, the white Decoction, with a Dissolution of *Gum Arabic*, *Rice* boil'd in Water with a little *Cinnamon*, or a Decoction of the *Pomegranate-bark*; and any of these may be made palatable with the Syrup of *Citron-peel*. *Hartshorn*, and *Calf's-foot-jelly*, are of Service.

At Bed-time one of the following *Poluses* may be administered:

Take of *Venice Treacle*, half a Dram; of *Japan Earth*, one Scruple; of *London Laudanum*, one Grain, or one Grain and a half; and of *Diacodium*, a sufficient Quantity for forming into a *Bolus*. Or,

Take of *Diacordium* without Honey, one Dram; of *Snake-root* and *Saffron*, each six Grains; of *London Laudanum*, one Grain; and Syrup of *Poppies* a sufficient Quantity for making a *Bolus*.

These Medicines are given in order to promote Perspiration, that the detained Matter may gain a Vent through the proper Emmenories, and not be forced inwards upon the Bowels for want of a natural and appropriated Evacuation. For this Reason,

son, a Decoction of *Sassafras*, *Guaiacum*, *Juniper-berries*, *Chamomile-flowers*, and such-like, gratefully contrived, may contribute more towards the Cure of this *Diarrhoea*, if taken as common Drink, than any of the Preparations before-mention'd for that Purpose.

Sometimes the Looseness is so obstinate and untractable, as not to yield to these Endeavours; and the Patient, after some Continuance in this Course, begins to loath, and absolutely renounce, his Medicines. We must therefore apply to Glysters, as our last and only remaining Expedient. The following Forms may serve as Specimens of their Composition:

Take of the common Decoction for Glysters, eight Ounces; of *Juniper-berries*, two Ounces; and of *Turpentine* dissolved in the Yolks of Eggs, half an Ounce: Mix for a Glyster. Or,

Take of *Diacordium*, half an Ounce; of *Venice Treacle*, two Drams: Boil in a sufficient Quantity of *Cows-milk*. Let eight Ounces of this *Liquor*, when strain'd, be injected as a Glyster, to be repeated as often as the Condition of the Patient requires it.

It is to be observ'd, that these Glysters must be injected in small Quantities, and are to be retain'd as long as is possible by the Patient. I would not be understood to mean, that Glysters are only to be used when the Sick rejects other Remedies; for they are of Service in every Stage of this Disease, but more immediately necessary in this.

There are several external Applications to the Region of the Belly, which are greatly applauded by Authors of good Credit; and, as I myself have found considerable Assistance from them, I shall subjoin three different Forms:

Take of camphorated Spirit of Wine, four Ounces; of *Venice Treacle*, two Drams; of the Oil of Cloves, twenty Drops; and of the Oil of Anise and Wormwood, each six Drops: Mix up for an Epithem.

Take of *Venice Treacle*, half an Ounce; of the Powders of *Cinnamon* and *Cloves*, each one Dram; of the Oils of *Cinnamon* and *Mint*, each eight Drops; and of the Vinegar of *Roses*, a sufficient Quantity for making a Cataplasm.

Take of *Mithridate*, one Ounce; of *Nutmegs* and *Cinnamon*, each one Dram; and of the Powder of *Mastich*, a sufficient Quantity for making a Plaster to be spread upon Leather, with a little adhesive Plaster about the Edges, for its more commodious Retention on the Part to which it is applied.

Those who are subject to an habitual Looseness, may receive great Benefit by wearing Flannel, and by keeping their Bodies warm. *Towne's Treatise on the Diseases of the West Indies*.

A CONSUMPTION from a DIARRHOEA.

Many times, in a scorbutical Disposition of the Body, the Blood grows sharp to that Degree, that, being disturbed upon every little Occasion, it cannot assimilate the new Chyle to itself; whereby it comes to pass, that it is thrown out by the Glands of the Intestines in a continual Flux like a Stream; which Chyle, if it is benign, and more mild, forms a Distemper in the manner of a Looseness; but, if it be sharp, and of a malignant Nature, produces one in the Form of a bloody Flux. By this continual Efflux of the Chyle, the Blood is much impoverished, and grows hot; so that, although the bloody Flux or Looseness be overcome by the Use of Opiates and binding Medicines, yet a hectic Heat still remains in the Blood, together with an Atrophy, and Dryness of the Skin, arising from the impoverished and dispirited State of the Blood; as it happened to my own Son, and many others; which very often terminates in a Consumption of the Lungs. But the Way to prevent it is (after the Looseness and bloody Flux are cured by proper Medicines) by a long Use of a Milk-diet, the *Peruvian Bark*, the mineral Waters, which are chalybeate, and of the white Decoction for ordinary Drink. This Consumption often happens to Children who breed their Teeth; but, by the long Use of the white Drink, of *Pearl-julaps*, and binding Medicines, mix'd with some little Opiate, it is easily cur'd.

A CASE.

Mr. Tindal's only Daughter, a very fine young Woman, but scorbutical, and something melancholic, about eighteen Years of Age, upon the Suppression of her *Menfes*, fell into a colliquative Looseness, with Stools which came away like Water; which, by degrees, brought her into an universal Atrophy, even to the Degree of a *Marasmus*; but without any sensible Fever, or Cough, or Shortness of Breath, or any other Sign

Sign of any Distemper of the Lungs: So that she was not at all taken for a consumptive Person by the Physician, under whose Care she was, before I was concerned. Being called to go to see her, as one that had only a Looseness, when she was now, by reason of her Weakness, almost always confin'd to her Bed, I found her worn away with a Consumption even to a Marasmus; and that I plainly told her Friends, as my Opinion, altho' her Lungs as yet seem'd sound; neither was there any Sign of a hectic Fever. But when this Looseness, which the former Physician, for want either of Skill or Care, had suffered to run on so long, came once to be stop'd by a due Government, and the Use of efficacious Medicines, presently a hectic Flame began to be kindled in the Habit of her Body; and her Lungs also began to be affected with a Cough, that was almost perpetual, and a Shortness of Breath; which Symptoms being at length followed by colliquative Sweats, a Swelling of the Legs, and other Signs of a fatal Consumption of the Lungs, soon brought her, amidst the Lamentations of her Friends, to the last Period of her Life. Two things were here particularly worthy of a Remark: First, that the more her Looseness was stop'd, so much the more always were her Lungs presently affected. And, secondly, that altho' this Consumption had prevailed upon her almost for the Space of a Year, even to a Marasmus, before the Lungs seem'd to be in the least touch'd, yet in the Body, when it came to be open'd after Death, the Lungs appeared full of little Tubercles, and that not only such as were crude and hard, but also some which were ripen'd into Apostems. *Morton's Phthisiologia, Chap. 7.*

For an Account of an arthritic Diarrhoea, see ARTHRITIS.

That what has been said above, relative to Diarrhoeas, may be the better understood, I must make the following Remarks:

All sorts of Substances whatever, possessed of any considerable Degree of Acrimony, will stimulate the Intestines, accelerate their peristaltic Motion, invite a larger Quantity of Fluids to their Glands, and cause a Discharge of their Contents by Stool. Thus all those Medicines which are called Cathartics act, and produce an artificial Diarrhoea.

If alcaliscent Aliments are taken into the Stomach in Quantities superior to the Powers of Digestion, they putrefy, and, becoming acrimonious, by their Stimulus, provoke a Diarrhoea. Thus those who eat stale Fish, fall frequently into violent Diarrhoeas; and half a Grain of the putrefied Yolk of an Egg will produce a great Number of Stools.

If aciscent Aliments are taken in too large Quantities, they putrefy, and contract an acid Acrimony. Thus Milk, if it turns acid on the Stomach, purges; as do Fruits, and other Vegetables, under the same Circumstances. If the Stomach, Intestines, Liver, Pancreas, or any Part, which has an immediate Communication with the intestinal Tube, are affected with an Abscess, or Ulcer of any kind whatever, the acrimonious Matter discharged stimulates the Intestines, and produces a Diarrhoea.

In case of an Abscess in any Part at a Distance from the Intestinal Tube, suppose in the Lungs, and so situated, that it cannot be discharged externally; the patent Orifices of the Veins may absorb a Part, or even all the Pus of the Abscess, and convey it to the Arteries. Now, as the Arteries of the Intestines are very considerable, it is easily conceivable, that they may deposit this acrimonious Matter upon the Intestines, where it may stimulate them to a Diarrhoea, and make a Way for its own Discharge out of the Body. Or, if this should not happen, the Matter may be conveyed by the Arteries to the Veins, which, by their Union, form the *Vena Portæ*; which does, in some measure, the Duty of an Artery with respect to the Liver: And here the Matter may be separated from the Mass of Blood, discharged by the biliary Ducts into the Intestines, and thus pass off in copious Stools.

If any habitual Evacuation should be obstructed, Perspiration, for instance, the Matter retained will acquire a Tendency to Acrimony, and be more likely to be deposited upon the Intestines, than any-where else, as it may be secreted both from the intestinal Arteries, and the *Vena Portæ*.

When the obstructing Matter, in a chronical Distemper, is resolv'd, mov'd, and mix'd with the Mass of Blood, this may, and frequently is, convey'd to the Intestines, and discharg'd by a Diarrhoea. This happens to surfeited Horses, when turn'd to Grass in the Spring, especially in salt Marshes; for, when the saponaceous Juice of Grass has resolv'd their Obstructions, and the Matter thereof is mix'd with the Blood, a salutary Diarrhoea carries it off, and the Animal recovers his Health, and grows plump and sleek.

Thus, also, People who eat large Quantities of the saponaceous Spring-herbs, or of ripe Fruits, fall into a plentiful Diarrhoea, attended with similar good Effects.

Hence we may perceive, how careful Physicians should be to investigate the Causes of Diarrhoeas, in order to prescribe judiciously, and to avoid doing a great deal of Prejudice: For the Matter causing a Diarrhoea must be carried off, either spontaneously, or by Art, before there can be any good Reason for administering Astringents; which seem only to be indicated,

when the Discharge is so exorbitant, as to endanger Life; or when the Emisseries of the Glands, which open into the Intestines, are too much relax'd, after the stimulating Cause is perfectly eliminated.

Destroying the peculiar Acrimony causing a Diarrhoea, when that can be done, will bid fair to cure, or, at least, to alleviate, the Disorder.

DIARTHROSIS. A Species of Articulation. See ARTICULATION.

DIASAPONIUM. The Name of an Unguent in *Nicolaus Myrepsus, Sect. 3. C. 88.* in which Soap is the principal Ingredient.

DIASATYRION. The Name of an official Electuary, so call'd from Satyrion, the principal Ingredient. Its Use is to excite Venereal Inclinations. It is directed in the former Dispensatories of the College, but omitted in the last. It is describ'd in *Nicolaus Myrepsus*.

DIASCILLION. The Vinegar and Oxymel of Squills are call'd by this Name in *Marcellus Empiricus*.

DIASCINCI Antidotus. A Name for Mithridate.

DIASCORDIUM, so call'd from Scordium, one of its Ingredients. A celebrated Composition, otherwise call'd *Confectio Fracastorii*, is thus directed by the College:

Take of Cinnamon, and Cassia-wood, of each half an Ounce; of true Scordium, one Ounce; of *Cretan Dittany*, Tormentil, Bistort, Galbanum, and Gum *Arabic*, of each half an Ounce; of Storax, four Drams and a half; of Opium, and Seeds of Sorrel, of each one Dram and a half; of Gentian, half an Ounce; of *Armenian Bole*, one Ounce and a half; of *Lemnian seal'd Earth*, half an Ounce; of long Pepper, and Ginger, of each two Drams; of clarify'd Honey, two Pounds and a half; of Sugar of Roses, one Pound; of generous *Canary*, eight Ounces: Make into an Electuary. *S. A.*

It may also be prepared with Diacodium instead of the Honey, and leaving out the Sugar of Roses.

Quincy, a very good Judge of pharmaceutical Subjects, makes the following Remarks upon this Composition:

This, says he, is originally the Prescription of *Hieronymus Fracastorius*, a most celebrated Italian Physician, given in his Book *de Contagio, & Morbis contagiosis, Lib. 3. Cap. 7.* and, for that Reason, is commonly, in extemporaneous Prescriptions, call'd *Confectio Fracastorii*. The first of our College Dispensatories, and the *Augustan*, inserted it alike; but, in subsequent Editions, it hath been alter'd, tho' chiefly in the Transpositions of the Ingredients. The present, however, is copy'd after the first Form exactly, unless in the Sugar of Roses for Conserve. The Emendation here, likewise, to be made at Discretion, of Diacodium for Honey, is, on many Accounts, greatly to be liked; and the Reasons for such an Alteration cannot but be obvious to every one acquainted with these Matters. The Scordium and Dittany are to be finely pick'd from their Stalks; and all must be powder'd together, except the Galbanum and Opium, which must be strain'd, and first mix'd with the Honey; and then the Species must be sifted and stirr'd in; and, after all, the Wine is to be put to it, as *Zwelfer* hath directed in his Remark hereupon. Some also strain the Styra, but it will pass with the others into a Powder; but, then, it must be better settled from the Dross, otherwise the Quantity will be defective. For the Sugar of Roses, one Ounce of the Flowers are powder'd with the dry Ingredients, and so much the more Honey put instead of the Sugar. If, for the Cassia-wood, Cinnamon be used, it much improves the Medicines; both as the latter is a much more astringent Spice, and the other, in time, gives a slimy Quality to the Composition, and spoils it. This is valued for its Colour, which it receives only from the Bole, the most indifferent Ingredient in it; but, as it is a Sign of its Freshness, it is of Use; for this Medicine is much the worse for Age, and is known to be so by the red Colour wearing off: But that, likewise, may be discover'd by the Faintness of its Taste; for the Aromatics by Time exhale, and the Roughness of the Ingredients, in which its Astringency consists, by long Continuance in a moist Form, grows softer and smoother upon the Palate. The Colour is, indeed, renewable by a little fresh Bole, but the Deceit may be discover'd by the Taste. Every one knows, how much this is in Use, and for what Purposes; and, indeed, if the several Ingredients be nicely selected, and the Medicine fresh-made, it is excellent in all Fluxes whatsoever, and a great Strengtheners both of the Stomach and Bowels. In its Influence upon Fluxes, the Opium has no small Share, as may be well conceived from the Virtues of that Drug. It is given to Children, from five Grains to one Scruple, and to grown Persons from one Scruple to two Drams for a Dose. There is but one Grain of Opium in five Drams twelve Grains. A very mischievous Way some Nurses have got, of giving their Children this Medicine to make them sleep, more for their own Ease than any thing else; which is frequently the Foundation of many Disorders, from its keeping them

them too costly, the worst State Children can be in. Because Honey, which is certainly an Opener, and a powerful Detergent, and therefore contrary to the main Design of this Composition, is here in so large a Quantity, the modern Practice has very prudently order'd this Medicine to be made without it, by using, in its stead, a sufficient Quantity of Syrup of Meconium, boil'd up to a due Consistence, which greatly improves the Medicine; but the Quantity for a Dose must then be proportionably less'n'd, as the Syrup adds to its narcotic Property. Many also, of late, have a Way of drying the Opium, so as to powder with the Species, and reserving it by itself; and this is the best Way of all to preserve the Virtues of the several Ingredients entire, which no moist Form can do those of an astringent Nature. Of the Species may be given, for a Dose, from five Grains to one Scruple.

With respect to the Change of *Syrupus e Meconio* for Honey, it may be much doubted, whether this is an Improvement or not. It is very certain, that Honey, by its Fermentation, induces a very great Alteration in all the Ingredients, unites their Virtues, and, perhaps, in this Composition, alters the Opium for the better. Thus far, however, may be affirm'd, that Diacordium, without Honey, is a very different Medicine from that prepared with Honey. It may be added, that the Medicine seems to be intended for a stomachic Restorative, and Strengtheners of the Organs of Digestion, and not particularly for an Astringent. And Honey is known to deterge and attenuate; and therefore the viscid Humours, adhering to the Coats of the Stomach and Intestines, are removed, and prevented from interfering with the Functions of the Organs above-mention'd.

DIASENA. The Name of an Antidote in *Nicolaus Myrepsus*, Sect. 1. C. 112. so call'd from Sena, a principal Ingredient in the Composition. The *Pulvis Diasenæ*, in the *London Dispensatory*, is very different from this. See SENNA.

DIASERICOS, διασερικος. The Name of a Composition describ'd by *Trallian*, L. 3. C. 7. in which Silk is an Ingredient.

DIASMYRNON, or **DIASMYRNES**, διασμυρνον, διασμύρνης. The Names of several Collyria, describ'd by *Galen*, *Aetius*, and *Scribonius Largus*, in which Myrrh (σμύρνη) is an Ingredient.

DIASOSTICA, from διασώζω, to preserve. That Part of Medicine, which relates to the Preservation of Health.

DIASPERMATON, διασπερμάτων. The Name of a Malagma in *Galen*, L. 7. de Comp. per Gen. and of another in *Paulus Aegineta*, L. 7. C. 18. both compounded of Seeds.

DIASPHAGE, διασφαγή. An Interstice betwixt two Rocks, or any Interstice. *Hippocrates* uses it to express the Interval or Distance betwixt two Branches of a Vein.

DIASPHYXIS, διασφυξις, from σφύζω, to strike. The Pulsation of an Artery.

DIASTASIS, διασασις, from διασπαι, to separate. A Separation, frequently used with respect to Bones, which recede from each other. It imports also an Interval or Interstice, as that betwixt the Ulna and Radius, or that betwixt the Tibia and Fibula. This Word, also, sometimes signifies such a Distention of the Muscles as happens in Convulsions; and, when apply'd to the Stomach, an Effort to vomit. It farther implies the same as *Diastole*, when used relative to the Pulse.

DIASTEATON, from στεαρ. Fat. The Name of an Ointment in *Marcellus Empiricus*, in which the Fats of the Stag, Swine, Goose, and Hen, are directed.

DIASTEMA, διαστημα, of the same Derivation as *Diastasis*, and of much the same Import. *Galen* says, it signifies a Conformation of Bodies resembling Wool. And *Hippocrates*, L. de decenti Habitu, uses it to express the Interval of Time betwixt one Visit, which a Physician makes his Patient, and the next.

DIASTOLE, διαστολή, from διατέλλω, to stretch. In Anatomy it imports the Dilatation of the Heart, Auricles, and Arteries.

DIASTOMOTRIS, διαστομωτρίς. This is usually joined with μίαν, a Probe, and implies any dilating Instrument, as a *Speculum Oris*, *Speculum Ani*, or *Speculum Uteri*.

DIASTREMMA, διαστρέμμα, from διαστρέφω, to distort. A Distortion of the Limbs. *Diastrophe*, διαστροφή, is of the same Import.

DIASULPHURIS EMPLASTRUM.

Take of the Flowers of Sulphur, and Venice Turpentine, of each half an Ounce: Stir them over a gentle Heat, that they may incorporate together, and be in perfect Fusion. After Removal from the Fire, put in one Ounce more of Turpentine, and stir them about till they are cold. Of this Mixture take one Ounce; of Wax, two Drams: Melt these together, and remove them off the Fire, to stir in of Myrrh, in fine Powder, one Ounce; of Camphire, one Dram: Mix them exactly so as to make into a Plaster. S. A.

This is originally ascrib'd to *Rulandus*; and *Sennertus*, in his *Institutions*, gives it a great Recommendation for the Cure of all sorts of Ulcers. *Schroder*, and our Countryman *Bates*, have given Prescriptions of it alike; but this differs from them both very considerably, in omitting the Refin, adding Camphire, and changing, indeed, the Manner of Composition in most Parts of the Process.

There are many other Preparations of Sulphur, which have the Appellation of *Diafulphuris*.

DIATAMARON. The Name of an Antidote in *Nicolaus Myrepsus*, Sect. 1. C. 25. *Fuchsius* thinks the Reading is wrong, and that it should be *Diatamoren*, or rather *Antimoron*, that is, against Death.

DIATASIS, διατάσις, from διατείνω, to distend. The Extension of a fractured Limb, in order to its Reduction.

Διάτασις πνεύμονος is the lower and internal Part of the Thorax, in which the Lungs are distended during Inspiration.

DIATECOLITHU, διατεκολίθου. The Name of an Antidote describ'd in *Paulus Aegineta*, L. 7. C. 11. so call'd from the *Lapis Judaicus*, (τεκολίθου) one of its Ingredients.

DIATESSADELTON. The same as *DIACELTATESON*, which see.

DIATESSARON, διατεσσαρων. The Name of a Composition, so call'd from the four Ingredients it comprehends.

Take of Gentian-root, Bay-berries, Myrrh, and round Birthwort, of each two Ounces; of Honey, two Pounds: Mix them into an Electuary. This, with the Addition of the Shavings of Ivory, two Ounces, is intitled *Diapente*, or a Composition of five Ingredients.

This hath pass'd, without Alteration, thro' all the Emendations of the College Dispensatories, where, at first, it enter'd under the Title of a Theriaca. It comes originally from *Mesue*. *Avicenna* also prescribes it; but it is hardly ever order'd in the Form of an Electuary, and therefore not kept so in the Shops: But in its Species, with the Addition of Ivory, it is much call'd for, by the Name of *Diapente*, principally for some Distempers among Cattle.

Quincy mistakes in saying, that this came originally from *Mesue*; for *Vegetius*, in his *Mulomedicina*, L. 1. C. 64. describes the *Diapente* exactly as here directed; and, in L. 1. C. 16. he speaks of it as a Medicine of great Importance in the Diseases of Cattle.

DIATETTIGON, διατεττίγων. The Name of an Antidote in *Paulus Aegineta*, L. 7. C. 11. in which Grasshoppers are an Ingredient.

DIATHESIS, διαθήσις, from διατίθημι, to dispose; an Affection or Disposition; is a Quality, which is easy to be removed. *Galen*, Com. 5. in Lib. 6. Epid. tells us, that he calls those Qualities morbid Affections, νοσώδεις διαθήσεις, not only when the Patient actually labours under them, but when they begin to arise. The Word is also used by *Galen ad Thrasib.* in the same Sense as σχήσις, Habitude.

DIATHESMOS, διαθεςμός, is expounded, in *Erotian* upon *Hippocrates*, by διαύσις. See DIAPHYSIS.

DIATRAGACANTHI frigida Species.

Take of Gum Tragacanth, two Ounces; of Gum Arabic, one Ounce and two Drams; of Starch, half an Ounce; of Liquorice and the Seeds of Melons, and white Poppies, of each three Drams; of the Seeds of Citruls, Cucumbers, and Gourds, of each two Drams; of Sugar-candy, three Ounces: Mix them into a Powder.

This is ascrib'd to *Nicolaus Myrepsus*, from whom, Sect. 1. Cap. 98. it is exactly transcrib'd by the College into their first Dispensatory, where also it is occasionally, and at Pleasure, ordered to be made into an Electuary, with Syrup of Violets; but therein is half a Scruple of Camphire, which they since have thought fit to leave out; and there is added one Scruple of Water-lily-flowers; but such a small Proportion is of so little Consequence, as to be here rejected. The *Augustan* Dispensatory likewise hath it both without the Camphire and Lily-flowers; where *Zwelfer*, in his Notes thereupon, recommends it as a good Pectoral, and a Cooler of the Blood; but he greatly blames it as an Ingredient in the *Aqua Dysenterica Quercetani*, in his Remarks thereupon in the *Pharmacopœia Regia*, because all the Ingredients of it are incapable of giving any Virtues by Distillation. This is frequently prescrib'd in hectic Heats, where the Rapidity of the Blood's Motion is subject to abrade and break through its Bounds, by tearing off the Capillaries, and thereby causing sometimes inward Bleeding; for this Medicine is cooling and agglutinating, whereby it helps to keep the Membrane guarded with their proper Mucus, and thereby also defends them against Acrimonies: And thus it is likewise of Service in choleric Constitutions, and where the Sharpness of Humours threatens Excoriations and Exulcerations. Upon this Account, too, it comes to be useful in many Distempers of the Breast,

Breast, because it will soften and thicken sharp Defluxions, and ease the Coughs which proceed therefrom: And thus Stranguries, Heat of Urine, and the Pungency of venereal Gleets, are hereby relieved, both by sheathing the Acrimony of the Fluids, and defending the Vessels from their Irritations. For these Purposes this is a good Composition; but the Quantity of Flowers of Water-lilies is merely ridiculous, it bearing no manner of Proportion to its Virtues, ten times the Quantity that is in the Medicine not being more than a Person would give at one Dose, had he any Intention of Moment to answer with it. The Dose of the Whole is from half a Dram to two Drams, and frequently to be repeated. This is much the best when fresh-made, because the Seeds, with keeping, grow rancid.

DIATRION PIPEREON SPECIES. A Composition in the *London Dispensatory*, which is thus directed:

Take of the black, long, and *Jamaica* Pepper, of each six Drams and fifteen Grains; of Aniseeds, Thyme, and Ginger, of each one Dram; and make them into a Powder.

This is prescrib'd by *Galen de tuenda Valetudine*, where he recommends it against Crudities, and a Redundance of cold Humours. *Mesue* hath likewise given a Prescription under the same Title, for the same Intentions, which hath also been inserted in the *Augustan Dispensatory*; but adds some more Spices, and carminative Seeds. The College hath thought fit to receive the first into their Dispensatory, and to continue it without Alteration till the last, where the *Jamaica* Pepper is added, because the black and white, before intended as two of the three Peppers, are but the same in kind, and differ only in the particular Management to make them appear of two Sorts.

DIATRITOS, *Διατρίτος*.

An Abstinence for three Days was one of the most considerable Points in Practice, by which the first Methodics distinguished themselves from other Physicians. This Term of three Days they called *Diatritos*, and not the Abstinence itself, as *Goræus* supposed; and this Space of three Days, or the third Day, to which the Methodics were most scrupulously attached, procur'd them the Name of *Diatritarii*. *Goræus* observes from *Galen*, *M. M. Lib. 10. Cap. 6.* that these Physicians suffered three entire Days to pass, before they allowed any Nourishment to their Patients; and adds, that they began to give them some Food on the fourth Day, after that on the sixth, and then on the eighth, and so on; so that the first Nourishment was not given till after the first *Diatritos*, or after the first three Days were past; but, from that time, every second Day. It seems likely, that *Galen* perfectly knew the Conduct of the Methodics in this respect; and yet it is certain, from a Multitude of Passages in *Cælius Aurelianus*, that they made their Patients fast only the two first Days, and gave them some Nourishment on the third. This Difficulty may be solv'd by saying, that the Transcribers of *Galen* mistook in a Figure; or that *Soranus*, whom *Cælius* follows, and who did not agree with other Physicians of his own Sect, might have retrenched one Day from the *Diatritos* of *Theophilus*, and the other Methodics. We must observe also, that *Cælius* gives the Name *Diatritos*, not only to the Space of three Days, but to the third Day in particular; and that he commonly makes use of the Distinction *intra Diatriton*, and *in ipso Diatrito*, that is, as himself explains it, *during the Space of three Days*, and *on the very third Day*. Hence it is, that, speaking of the Term of seven Days, he says, that it comprehends three *Diatritos*, the fifth Day being the third, if you begin to reckon from the third Day inclusively; and the seventh, according to the same Way of counting, the third.

Antipater, a Methodic Author, quoted by *Cælius*, said, that there was a natural Reason, why we should wait till the third Day, before we allowed the Patient any Nourishment; but he does not inform us of that Reason. *Hippocrates*, or *Polybus*, *de Morbis*, *Lib. 4.* seem to have been of Opinion, that there were two entire Days necessary for the perfect Concoction of the Food, the Distribution of the Juices in the Body, and the Separation and Evacuation of the excrementitious Parts; so that, according to these Authors, it was not till the third Day that the Body became free and disengaged from the Aliment which it had received on the first. This Notion, perhaps, obliged the Methodics to wait till the third Day, and might be the Reason which *Antipater* meant. After this Abstinence, which extended to the third Day, as we have observed, and not to the fourth, *Cælius* allowed his Patients Nourishment one Day in two, except in Cases of accidental Weakness, or Fainting, in which he dispensed with the ordinary Rules, and gave them Food every Day indifferently.

It is farther to be observed, that the third Day was appointed by *Cælius*, not only for the beginning to nourish his Patients, but to commence exhibiting his most considerable Remedies. On this Day he took away Blood for the first time, unless the Violence of the Disease obliged him to do it sooner; that is, as

he expresses it, *intra Diatriton*, within the Space of the two first Days, which rarely happened. This Bleeding, which was performed the same Day on which he began to nourish his Patient, preceded the Nourishment; which deserves to be considered by our modern Physicians, who are sometimes afraid of bleeding some Patients fasting, lest it should weaken them too much. The Methodics were so far from being uneasy on that account, that, even after Bleeding, and the Abstinence which preceded it, they allowed the Patient but a slender Nourishment, which ordinarily consisted in a Broth made of Water and Wheaten-meal, prepared after a particular manner, and reduced into small Grains, which they called *Alica*, that Name being common both to that sort of Meal, and the Broth made of it. *Cælius* prefers this Nourishment to the Pisan of *Hippocrates*, or to Barley-broth, which, he says, are flatulent and astringent.

We said just now, that the Methodics reserved their choicest Medicines for the third Day; which supposes those they used before to be not very considerable. And indeed, during the two first Days, or the Time of Abstinence, these Physicians only suffered their Patients to wash their Mouth with Water, or to drink a little of it. And, as to their other Management, they did nothing but anoint them, and cover them with Cataplasms, and Wool dipt in hot Oils, if it was a Disease of Stricture, but in cold Oils for a Disease of Relaxation or Flux; to which Remedy, in this last Case, they added refrigerating Fomentations, and the Application of all manner of astringent Topics. And, tho' these Remedies may appear to us but of little Significancy, yet the Methodics had quite a different Notion of them. They believed, that, by constringing or relaxing the external Parts, the internal were, in like manner, constringed or relaxed; and they laughed at other Physicians, who, being of a quite contrary Sentiment, pretended, on certain Occasions, to cure a Flux or Relaxation of the exterior Part, by opening the Pores of the interior. They did not trouble themselves about discovering, to a great Degree of Exactness, the proper Seat of the Disorder; but had recourse to Relaxation and Constriction of the whole Body in general, in whatever Part the Flux or Stricture were discovered; and they continued the Use of these Remedies every second Day, or the Day appointed for Abstinence.

DIAULOS, *Διαυλος*, is one who performs a strait Course forwards and backwards, or from the Starting-place to the Goal, and back again. The Word signifies also the Course itself, and *Διαυλοι* are accounted among the Sorts of Gymnastics by *Hippocrates*, *Lib. 1. & 2. de Diata*.

It is derived from *δις*, twice, and *αὐλὴ*, a Station, because the Course was performed back to the same Station; or from *δις*, twice, and *αὐλὰς*, signifying, among other things, a Stadium, because the Place of the Course was a Stadium in Length; so that, by running it forward and backward, they became *Διαυλοι*, or such as had run a *Διαυλος*, that is, two Stadia.

DIAZOMA, *Διάζωμα*. The Diaphragm.

DIAZOSTER, *Διάζωστήρ*. A Name for the twelfth Vertebra of the Back, so called, because the *ζώνη*, Belt, lies upon it.

DICÆOS, *Δικαίος*, has a Variety and Multiplicity of Significations in *Hippocrates*; for sometimes it is the same as *εὐλογος*, or agreeable to Reason; sometimes it is taken for *ἴσος*, equal or alike; in some Places it bears the Sense of *ἴσος* and *ὁμαλός*, that is, equal and even, or equable; It signifies also *συμφέρων*, convenient or accommodated; also just, complete, natural, best, and fittest; in which Senses it is applied to the Physician, Method of Cure, Situation of Parts, Diet, and many other things.

DICENTETON, *Δικέντητον*. The Name of a hot and acrid Collyrium, describ'd by *Paulus Aegineta*, *L. 3. C. 13.*

DICHALCON, *Διχάλκον*. A Weight equal to two *Æreola*, or one Third of an Obolus.

DICHASTERES, *Διχαστήρες*. The *Dentes Incisores*.

DICHOPHYIA, *Διχόφυια*. A Distemper of the Hairs, which consists in their growing forked. *Galen*.

DICOCTA, *Δικοκτα*. Water first heated, and then refrigerated with Snow. *Galen. Method. Medendi, L. 7. C. 4.*

DICRÆUS, *Δικραιός*. Bifid.

DICROTUS, *Δικροτός*, from *δις*, twice, and *κρῖνω*, to strike.

An Appellation of a certain Pulse, in which the Artery beats, as it were, double. Dr. *Nibell*, a late Author, has given some very remarkable Observations relative to this sort of Pulse, which he calls, not improperly, the *Rebounding Pulse*, made by Dr. *Solano*, a Spanish Physician, and confirmed by a great many Cases. The *Pulsus Dicrotus*, says he, of the Antients, which, in English, may be properly called the *Rebounding Pulse*, is a certain Sign of a future critical Hæmorrhage by the Nose.

When the rebounding Pulse appears at or about every thirtieth Pulsation, the Hæmorrhage follows in four Days after, somewhat sooner or later; when it recurs at every sixteenth Pulsation, the Hæmorrhage supervenes in three Days; when it is observed at every eighth Pulsation, the Hæmorrhage is to ensue in two Days and a half; lastly, when it returns at every fourth, third, second Pulsation, or is continual, the Hæmorrhage is to be

be expected within the Space of twenty-four Hours. Therefore, in general, the shorter the Periods of Pulsation, at which the Rebounding recurs, the nearer the Hæmorrhage.

Sometimes Nature runs regularly through all the fore-mentioned Progressions of the critical Pulse, from its first Appearance at every thirtieth, down to every single Pulsation; by which the Hæmorrhage is foreseen gradually approaching just in the same Degrees: She sometimes inordinately hastens or delays the Hæmorrhage, and then the Rebounding of the Pulse recurs with more or less Frequency in the same Proportion; and when this returns in variable shifting Periods, the Time at which the Hæmorrhage is to happen, cannot be exactly determined.

When the Artery rebounds upon the Finger with great Celerity, and very briskly follows the first Stroke, the Hæmorrhage is just at hand; and if then it should delay a little, it will appear on the Patient's blowing his Nose.

The Quantity of the Hæmorrhage is foreseen by the Vigour with which the Artery rebounds, compar'd exactly with the Force of the first Stroke, be this either vehement or languid. Thus, when the Artery rebounds with less Moment than the first Stroke has impress'd on the Finger, then is the Hæmorrhage to be small, and *vice versa*; but when the Rebounding of the Artery, and the first Stroke, are of equal Vigour, the Hæmorrhage is to be moderate.

According as the Blood flows, the Rebounding of the Artery slackens gradually, until it entirely disappears soon after the Crisis; and this gradual Remission of the Rebounding is the Sign of an immediately preceding Hæmorrhage.

If, after the Hæmorrhage, the rebounding Pulse should continue, or appear again, it denotes another Crisis of the same Kind, according to the above-mention'd Rules.

When the Rebounding of the Artery is more evident in one Wrist than in the other, the Blood frequently flows in great Abundance from the Nostrils of the same Side, in which the Rebounding is more evident. *Nihil.*

These Observations will be of very great Importance in Physic, provided Experience confirms the Truth of what is here laid down.

DICTAMNITES, *δικταμνίτης οίνος*. A Wine medicated with Dittany, describ'd by *Dioscorides*, L. 5. C. 57. It is made by macerating four Drams of Dittany in eight Cotylas of Must. It is a good Remedy against Nauseas, and promotes the Lochia and Menfes.

DICTAMNUS. Dittany. The Characters are,

The Flower-cup consists of two Leaves; after that, another athwart the former; and again, a third in like manner, until a scaly Head be thence form'd: Out of the Centre of all these Scales grows a Flower, whose Crest is erect, roundish, and bifid: The Beard is divided into three Parts; two Floscules, one on each Side, come forth from leafy Scales, together with Whorles, collected into a long loose Spike.

Boerhaave mentions two Species of this Plant; which are, 1. *Dictamnus*; *Creticus*. *Offic.* G. B. P. 222. *Park. Theat.* 27. *Raii Hist.* 1. 537. *Hist. Oxon.* 3. 357. *Boerb. Ind.* A. 178. *Rupp. Flor. Jen.* 191. *Dictamnus Creticus five vera*, J. B. 3. 253. *Dictamnus vel Dictamnium*, Chab. 420. *Dictamnium Creticum*, Ger. 651. *Emac.* 795. *Origanum Creticum latifolium, tomentosum, seu Dictamnus Creticus*, *Elem. Bot.* 167. *Tourn. Inst.* 199. **DITTANY OF CRETE, OR CANDY.** *Dale.*

The true Dittany of *Crete* is a Plant which rises not to any great Height, having a woody fibrous Root, from which spring several square hairy Stalks, which have two round Leaves at a Joint, cover'd over pretty thick with a white Down or Cotton: On the Top of the Stalks grow long scaly Heads, of a greenish purple Colour; among which come forth small labiated purple Flowers, like those of *Origanum*. The Leaves have an agreeable aromatic Smell. This Plant grows chiefly in the Island of *Crete*, or *Candy*, flowering in *June*. The Leaves only are used. There is a good Quantity of it put into Venice Treacle, Mithridate, and *Diafcoedium*. *Mil-ler's Bot. Off.*

Groffroy informs us, that this Leaf has always been look'd upon as an excellent Vulnerary, and powerful Cordial; it is likewise an Emmenagogue and Diuretic.

It has all the Virtues of the Garden *Pulegium* (*Penyroyal*), but in a much greater Degree; for not only when it is drank, but barely applied, or used in Suffumigations, it expels the dead Fœtus. They say, that in *Crete*, the Goats, when they are wounded with Arrows, expel them by eating this Herb. The Herb, apply'd, draws out Splinters from the Soles of the Feet, or any other Parts of the Body. It is effectual against Pains of the Spleen, by diminishing that Part. The Root is heating in the Mouth, and accelerates the Birth; and the Juice, drank in Wine, relieves those who are bit by venomous Animals, which are driven away by the very Smell of the Herb, and killed by its Touch. The Juice insil'd into Wounds inflicted by Weapons, or venomous Bites, and drank at the same time, is a present Remedy. Thus far *Dioscorides*.

Hippocrates, as *Galen* informs us, reckon'd Dittany as one of the best Medicines that he knew for expelling the Secundines, and, if drank in Wine, for a false Conception. It provokes the Menfes, as *Pliny* says, and expels the dead Fœtus, even though it lies across in the Uterus; and is not only effectual in Potions, but in Ointments and Suffumigations; and so great is its Virtue in such Cases, that pregnant Women are not to admit it into their Chambers.

Thadæus Dunus, as *J. Bauhine* relates, being call'd to a Woman in Labour of a dead Fœtus, and given over by all, after trying other Medicines, exhibited to her, as she sat in a Bath, half a Scruple of the Powder of the Leaves of *Cretan* Dittany in Spring-water; which done, he began, as he said, to entertain Hopes of Success; for all Things seem'd to tend to the Bottom of the Belly. She pass'd that Night in a tolerable Condition, though without Sleep, and, before Day-break, was happily deliver'd of her Burden. Dittany has, moreover, this Advantage, that it is easy to be taken; whereas other Things, which are expulsive of a dead Fœtus, are either too bitter, or fetid, or too acrimonious, or unfriendly to the Stomach, and may possibly do Mischief. *Raii Hist. Plant.*

2. *Dictamnus*; *montis Sipyli*; *Origanum foliis*, *Flor.* 2. 79. *Origanum montis Sipyli*. H. L. 463. *lc. & Descr.* *Origanum, spicatum, montis Sipyli, foliis glabris*. *Whel. Raii Hist.* 340. **DITTANY FROM MOUNT SIPYLUS, WITH WILD MARJORAM-LEAVES.** *Boerb. Ind. alt. Plant. Vol.* 1.

DICTYOIDES, *δικτυοειδής*, from *δίκτυον*, a Net. A Name for the *Rete Mirabile*. See *CAPUT*.

DIDYME, *διδύμη*. A Name for the Root of the Orchis. *Galen, Exeg.*

DIDYMEÆA, *διδυμαία*. The Name of a Malagma, or Cataplasin, in *Galen, de Comp. M.* 1. *Loc. L.* 10. *C.* 2.

DIDYMI, *διδύμοι*, properly Twins. But the Testicles are call'd by this Name; as also the small Eminences in the Brain, call'd *Testes*.

DIECBOLION, *διεκβολιον*. The same as *ECBOLION*, a Medicine causing Abortion.

DIELECTRON, *δι' ἡλεκτρικ*. The Name of a Troche in *Marcellus Empiricus*, C. 16. so call'd from Amber, (*ἡλεκτρον*) a principal Ingredient.

DIEMEÆ. A Term coin'd by *Paracelsus*. It imports a kind of Spirit, which, he says, resides in Stones.

DIENEZ. The same as *Diemeæ*. *Rulandus*.

DIERVILLA. The Name of a Plant so call'd by *Tournefort*, from Mr. *Dierville*, a Surgeon, who brought it from *Acadia*. We have no *English* Name for this Plant.

The Characters are,

It hath a Flower, consisting of one Leaf, which is tubulous, and divided into five Parts. The Ovary, which crowns the Pointal, is produc'd from the Centre of the two-leav'd Calyx; and, after the Flower is pass'd, it becomes a pyramidal Fruit, divided into four Cells, which are fill'd with small Seeds. *Miller's Dictionary, Vol.* 2.

Boerhaave mentions but one Species of this Plant, which is, the *Diervilla*; *Acadiensis*; *fruticosa*; *flore luteo*. *T. Ac. Reg. Sc.* 706. *T.* 7. *F.* 1. *H.* **SHRUBBY DIERVILLA OF ACADIA, WITH A YELLOW FLOWER.** *Boerb. Ind. alt. Plant. Vol.* 1.

I find no medicinal Virtues ascrib'd to this Plant.

DIESIS, *διεσις*, from *διήμι*, to transmit. Transmission, or Division. It also imports Humectation, or Irrigation; and is then derived from *διήμι*, to moisten.

DIEXODOS, *διέξοδος*, from *διὰ*, and *ἔξοδος*, a Way by which any thing passes. In *Hippocrates*, it signifies the Descent or Passage of the Excrement by the Anus.

DIFFLATIO. Transpiration.

DIGASTRICUS Musculus, from *δις*, importing double, and *γαστήρ*, a Belly. A Muscle of the lower Jaw, describ'd under the Article *CAPUT*.

DIGESTIO. Digestion, in Surgery, is the disposing an Ulcer or Wound to suppurate, or discharge good Pus, by the Application of proper Medicines.

In Chymistry, it imports the exposing a Body to a small Degree of Heat for a considerable time, in order to open it, and dispose its finer Parts to separate from the rest. Thus, in extracting Tinctures, the Body from whence the Tincture is to be drawn, is set, together with the Menstruum, in a gentle Heat.

DIGESTIVUM. A Digestive, or Medicine apply'd to Wounds, in order to promote a good Suppuration, or Formation of Matter. Turpentine, with the Yolk of an Egg, *Oleum Hyperici*, *Linimentum Arcæi*, and *Basilicon*, are generally used with this View.

DIGITALIS.

The Characters are,

The Leaves are produc'd alternately on the Branches. The Cup of the Flower consists of one Leaf, which is divided into six ample long Segments: The Flower consists of one Leaf, is tuberosé and compress'd, and a little reflex'd at the Brim: The Flowers are dispos'd in a long Spike, and always grow upon

upon one Side of the Stalk : The Ovary of the Flower becomes a roundish Fruit, which ends in a Point, and opens in the Middle ; has two Cells, in which are contain'd many small Seeds.

Boerhaave mentions eleven Species of this Plant ; which are,

1. *Digitalis* ; *purpurea* ; *folio aspero*. *C. B. Pin.* 243. *Boerb. Ind. A.* 228. *Hist. Oxon.* 2. 478. *Digitalis*. *Offic.* Chab. 267. *Rivin. Irr. Mon.* 104. *Dill. Cat. Giff.* 145. *Digitalis purpurea*. *Ger.* 647. *Emac.* 790. *J. B. 2.* 812. *Raii Hist.* 1. 767. *Synop.* 3. 283. *Merc. Bot.* 1. 32. *Phyt. Brit.* 35. *Mer. Pin.* 33. *Rupp. Flor. Jen.* 199. *Tourn. Inst.* 165. *Elem. Bot.* 134. *Digitalis purpurea vulgaris*. *Park. Theat.* 653. FOX-GLOVE. *Dale.*

Fox-glove has its lower Leaves long, large, and sharp-pointed, somewhat rough, hairy, and indented about the Edges ; the Stalks arise to be two or three Foot high, with several smaller Leaves growing on them. The Flowers are set in a long Spike, all on one Side of the Stalk ; they are large and hollow, in Shape like a Thimble, of a reddish Colour, having the under Lip full of white Spots : These are succeeded by round oval Seed-vessels, divided into two Cells, full of small dark-brown Seed. The Root is long and large, of a brown Colour, and full of Fibres : It grows in Hedges and Lanes, and flowers in June and July.

This Plant is rarely used inwardly, being strongly emetic, and working with Violence upwards and downwards : Though *Parkinson* extols a Decoction of it in Ale, with Polypody-roots, as an approv'd Medicine for the Falling Sickness. The Ointment made of the Flowers and May Butter is very much commended by the late *Dr. Hulse* for scrophulous Ulcers, which run much, and are full of Matter, dressing them with the Ointment, and purging two or three times a Week with convenient Purges. Official Preparations are only the *Unguentum Digitalis*. *Miller's Bot. Off.*

This Plant is esteem'd a Vulnerary. *Gesner* relates, that in *Bolonia* they call it *Aralda*, and have a Proverb, *Aralda chi tutte piage salda*. *Parkinson* bruised it, and applied it with Success to scrophulous Tumors. The Ointment of Fox-glove is very resolvent. *Lobel* says, the Decoction of it purges powerfully, both upwards and downwards. *Martyn's Tournefort.*

The UNGUENTUM DIGITALIS ; or, Ointment of Fox-GLOVE.

Take of the whole Plant of Fox-glove any Quantity, and boil it in a sufficient Quantity of fresh Butter ; which press out, and boil again with more of the Plant, as before ; which repeat a third time, and make into an Ointment.

2. *Digitalis* ; *rubella* ; *folio aspero*. *b.*
3. *Digitalis* ; *alba* ; *folio aspero*. *C. B. P.* 244. *M. H.* 2. 478.
4. *Digitalis* ; *Hispanica* ; *purpurea* ; *minor*. *T.* 165.
5. *Digitalis* ; *latifolia* ; *flore ferrugineo*. *M. H.* 2. 478. *H. R. Par.* BROAD-LEAV'D FOX-GLOVE, WITH AN IRON-COLOUR'D FLOWER.
6. *Digitalis* ; *lutea* ; *magno flore*. *C. B. P.* 244. *M. H.* 2. 479. FOX-GLOVE WITH A LARGE YELLOW FLOWER.
7. *Digitalis* ; *lutea* ; *minore flore*. *M. H.* 2. 479.
8. *Digitalis* ; *Orientalis* ; *folio tragopogi* ; *flore albedo*. *T. Cor.* 9. EASTERN FOX-GLOVE, WITH A GOAT'S-BEARD-LEAF, AND A WHITISH FLOWER.
9. *Digitalis* ; *Canariensis* ; *Acanthoides* ; *frutescens* ; *flore aureo*. *H. A.* 2. 105. *H. R. D.* SHRUBBY FOX-GLOVE, WITH A GOLD-COLOUR'D FLOWER.
10. *Digitalis* ; *angustifolia* ; *flore ferrugineo*. *C. B. P.* 244. *M. H.* 2. 478. NARROW-LEAV'D FOX-GLOVE, WITH AN IRON-COLOUR'D FLOWER.
11. *Digitalis* ; *minima* ; *Gratiola dicta*. *Hist. Oxon.* 2. 479. *Boerb. Ind. A.* 229. *Tourn. Inst.* 165. *Elem. Bot.* 135. *Gratiola*. *Offic.* *Ger.* 466. *Emac.* 581. *Raii Hist.* 2. 1885. *Rivin. Irr.* M. 126. *Rupp. Flor. Jen.* 200. *J. B.* 3. 434. *Gratiola*, *Gratia Dei*, Chab. 475. *Buxb.* 149. *Gratiola vulgaris*, *Park. Theat.* 220. *Gratiola*, *Centaurioides*, *C. B. Pin.* 279. HEDGE-HYSSOP. *Dale.*

Hedge-hyssop is but a small Plant, having slender creeping Roots, from which spring several square Stalks scarce a Foot high, with two long, narrow, sharp-pointed Leaves, like common Hyssop, set at every Joint ; among which come forth the Flowers, on short Foot-stalks, one at a Joint, being small, long, and hollow, not much unlike the Flowers of Fox-glove in Shape, divided at the End into four Segments, of a pale-yellow Colour ; and are succeeded by oblong Seed-vessels, divided into two Partitions, full of very small Seed. It grows on the Alps, and other mountainous Countries ; and flowers in July.

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This is a Plant but rarely used in *England*, though it is commended by some Writers as a good Purger of serous and cholic Humours, and serviceable against the Dropsy and Jaundice ; but it is of a rugged churlish Nature. *Miller's Bot. Off.*

The *Gratiola*, being analysed, yields no volatile Salt ; but a great deal of Acid, Oil, and Earth : *Pena* and *Lobel* affirm, it purges strongly both upwards and downwards ; for which Reason it is prescrib'd to those that have the Dropsy, Cachexy, Tertian or Quartan Ague, or are subject to the Gout and Sciatica. *Camerarius* says, that its Extract should be mixed with Powder of Cinnamon in the Dropsy ; and that the Juice of Calamint should be added to it for Intermittent Fevers. One Dram of the *Gratiola* is given in Substance, and the like Quantity of the Infusion in White-wine. They infuse half a Handful of its Leaves, and two Ounces of Manna, in a Gallon of Water : Let it give one Boil, and strain the Infusion through a Cloth, and give it to drink warm. *Martyn's Tournefort.*

In the *Historia Plantarum*, publish'd under the Name of *Boerhaave*, it is said, that the first, second, third, and fourth Species, are so extremely poisonous, and are possess'd of such a Degree of Acrimony, that they exulcerate the Mouth, Fauces, Oesophagus, and Stomach ; and that some, by eating accidentally the Fruit, have contracted Vomitings, and Dysenteries, which were very difficult to cure.

DIGITELLUS. A Name for several Funguses, none of which have any medicinal Virtues attributed to them, that I know of. *Dr. Martyn*, in his Translation of *Tournefort's* History of Plants which grow about *Paris*, specifies the following :

1. *Digitellus clavatus croceus*. *Clavaria militaris*, *Grocea*. *Vaill.* 39.
2. *Digitellus clavatus albus*. *Clavaria alba*, *Pistilli forma*, *Vaill.* 39.
3. *Digitellus clavatus*, *Ophioglossoides*, *niger*. *Clavaria ophioglossoides*, *nigra*. *Vaill.* 39.

This grows on grass Ant-hills, in a Close next *Hamblewood* ; and at *Comb-Park*, in the Way to *Kingston*. *Mer. Pin.*

4. *Digitellus coralliformis*, *luteus*, *minus ramosus*. *Coralloides flava*. *Inst.* 564. *Fungus ramosus flavus*. *J. B.* 3. 837. This has been found on *Marlborough Downs* in great Plenty, by *Mr. Wilmer*, Apothecary of *London*. I have seen it on the *Hill of Health*, and many other Places about *Cambridge*.

5. *Digitellus coralliformis*, *albidus*, *minus ramosus*. *Coralloides albidus*. *Inst.* 564. *Fungus ramosus*, *albidus*. *J. B.* 3. 837.

This differs from the preceding only in Colour.

6. *Digitellus coralliformis*, *candidissimus* *minus ramosus*. *Corallo-fungus candidissimus*. *Vaill.* 41.

7. *Digitellus coralliformis* *dilute purpurascens*. *Coralloides dilute purpurascens*. *Inst.* 564. XIX. generis, *esulentorum fungorum*, 2 Species. *Clus. Hist.* 275.

8. *Digitellus major nigricans*. *Hypoxylon excrementum ligni putridi fungosum*, *digitatum*. *March. Brand. Mentz. Pug. Tab.* 6. On rotten Wood, in many Places.

9. *Digitellus ramosus*, *niger*, *summitatibus pulvere albedo obductis*. *Corallo-fungus digitatus*, *niger*, *apicibus albidis*. *Vaill.* 41. This was found on a rotten Tree in *Moor Barns Thicket*, by *Mr. Hallsbyde*, Apothecary of *Cambridge*.

10. *Digitellus croceus*, *Ornithopodioides*. *Corallo-fungus croceus*, *Ornithopodioides*. *Vaill.* 41.

11. *Digitellus niger*, *compressus*, *varie divaricatus* & *implexus inter lignum & corticem*. *Corallo-fungus niger*, *compressus*, &c. *Vaill.* 41. This was found in *St. James's Park* by *Dr. Doody*.

DIGITUS. A Finger.

For the Anatomy of the Fingers, see BRACHIUM.

For an Account of Fractures of the Fingers, see FRACTURA.

For Luxations of the Fingers, see LUXATIO.

The Separation of FINGERS which grow together.

It sometimes happens, that the Toes and Fingers of newborn Children are found to be grown together : And this may happen two different Ways ; for they may be very closely join'd and glued, as it were, together ; or they may cohere by an intermediate Coat, like the Feet of a Goose. Sometimes the Fingers, both in young and grown Persons, will grow together, when, after being burnt or exulcerated, they are not treated carefully ; and, particularly, if they are bound up without proper Caution.

As a Cohesion of the Fingers not only disfigures the Hand, but induces a great many Inconveniences, Surgeons ought to make it their Business to separate them with the greatest Dexterity : And this may be done two Ways, either by cutting away the intermediate Tunic, by the Help of a Pair of Scissors or Knife ; or, if they closely cohere, without any intermediate

mediate Coat, they are to be accurately separated from each other by a small Knife. But, lest they should grow together again during the Cure, they must be bound up with a narrow Roller about a Finger's Breadth, impregnated with Lime-water, Spirit of Wine, or some vulnerary Water; and each Finger must be separately bound up, till all of them are perfectly heal'd. I have observed, frequently, some Fingers, after Burning, a Wound, or some such Injury, adhere so closely to the Palm of the Hand, that they could not be extended, nor the Hand opened. But that young Surgeons may not be ignorant of what they ought to do in such a Case, I shall, in a few Words, describe the Method I used in curing three Patients. I carefully separated, with a Knife, those Fingers from the Hand, without doing the least Injury to the Tendons; and after applying Lint, Compresses, and vulnerary Balsam, together with a Piece of Pastboard, I so treated all the Wounds, as to preserve the Fingers always extended, till they were perfectly conglutinated. At each Dressing, the Fingers are to be moved for some time, in order to prevent their becoming rigid. *Heist. Chirurg.*

DIGLOSSON, διγλωσσον, from δις, importing double, and γλῶσσα, a Tongue, a Name for the *Laurus Alexandrina*, so call'd, because above its Leaf there grows another lesser Leaf, resembling a Tongue. *Blancard.*

DIGNOTIO. The same as **DIAGNOSIS**, which see.

DIHÆMATON, διὰ τῶν αἱμάτων, from αἷμα, Blood; the Name of an Antidote against Poisons, describ'd by *Galen*, *Lib. 2. de Antid. Cap. 8.* and *Ægineta*, *Lib. 7. Cap. 11.* It is so call'd, because the Bloods of divers Animals enter its Composition.

DIHALON, διὰ ἁλῶν, from ἅλς, Salt, the Name of a Plaster prepared chiefly of common Salt and Nitre, and adapted to foul Ulcers: It is described by *Ægineta*, *Lib. 7. Cap. 17.*

DIHIDROS, διιδρῆς, from ιδρῆς, Sweat, is expounded in *Galen's Exegesis*, moist and sweating.

DIIPETES, διίπετης, in *Hippocrates*, *Lib. 1. περὶ γυναικ.* is applied to γένος, Semen, and imports a sudden or immediate Defluxion.

DIKALEGI, DICALEGI, DITALEM. Tin. *Rulandus.*

DILATATIO, ἐνυρσμός, ἀνενυρσμός, διεκνυσμός, a Dilatation, is an Affection of the Vessels of the human Body, when they have their Dimensions enlarged; and, in this Sense, is opposed to *Constriction*, a Constriction. Sometimes it means the same as **DIASTOLE**, which see.

DILATATOIRES *Alarum Nasi*, are Muscles which dilate the Alæ of the Nose; for a Description of which see **CAPUT**.

DILATATORIUM, a surgical Instrument for dilating the Mouth. *Castellus.*

DILUENTIA, Diluents, are such Things as cause or increase a Fluidity in Substances. *Blancard.*

DILUTUM, diluted, is spoken of what has passed under the Action of Diluents; but *Dilutum*, taken substantively, is a Liquid in which any thing has been for some time macerated and infused; and so is the same as *Infusio*. *Blancard.*

DILYTÆA, ἀλυταία, in *Myrepsus*, *Secl. 3. Cap. 12.* is, as *Fuchsius* says, the Fat of some Animal unknown.

DINICA, from δινέω, to turn round, are Medicines against a Vertigo. *Blancard.*

DINOS, δῖνος. The Vertigo. See **VERTIGO**.

DIOBOLON, διωβόλον, the Weight of two Oboli, or one Scruple: It is also call'd *Gramma*. *Castellus.*

DIOCRES, the Name of a Pallil in *Myrepsus*, *Cap. 49. Secl. 41.*

DIODOS, διοδος. The same as **DIEXODOS**, which see.

DIOENANTHES, διὰ ἐνάνθης, the Name of an Epithem against the *Cholera Morbus*, in *Trallian*, *Lib. 7. Cap. 44.*

DIOLOS *Artos*, διολος ἄρτος, in *Hippocrates*, *Lib. περὶ τῶν ἐν τῷ πλάτῳ*, signifies new Bread.

DIOMEDEA AVIS, the Heron, or Hern, so call'd from *Diomedes*, whose Companions, as the Fable says, were converted into Herns. See **ARDEA**.

DION, διορ, the Name of a Month in which the autumnal Equinox happen'd: It was only in Use among the *Macedonians*. *Gal. Com. 1. in 1. Epid.*

DIONCOSIS, διογκωσις, (from ὄγκος, a Tumor) Tumesfaction, Ampliation, is a Word in Use among the Methodics, by which they intend to signify a Distention of the Body by a Coacervation of excrementitious Parts, or from a Diffusion of the Humours. *Galen, de optima Secl.*

DIONIS COLLYRIUM, the Name of a Collyrium in *Oribas. Synops. Lib. 3.* from its Author *Dion*.

DIONYSIA, διουσία, the Name of a Plaster for Abscesses, invented by *Hera* the *Cappadocian*, and the same as *Dionysianum Emplastrum*; the Preparation of which see under **ANSCRSUS**.

DIONYSIANUM EMPLASTRUM. See the preceding Word.

DIONYSISCI, διουσίσκοι, certain bony Eminences near the Temples; they are also call'd κλέσα, Horns, from Διόνυσος, *Dionysus*, whom the Poets describe with Horns. *Castellus.*

DIONYSIUS, Διονύσιος, an eminent ancient Surgeon, whose Plaisters and Collyria are describ'd in *Celsus*, *Lib. 6. Cap. 6.* It is also a Name for *Lepidium*, *Dittander. Castellus.*

DIONYSOS, διόνυσος, the Name of a Collyrium in *Actius*, *Tetrab. 2. Serm. 3.* which may be reckon'd among the *Diasmyrna* and *Chiaca*; for it contains Myrrh, and is levigated in *Chian Wine*. *Ægineta* has much the same Composition under the Titles of *Collyrium Malabathrinum*, and *Isottheon*.

DIOPORON, the Name of a Medicine for the Quinsy, in *Cælius Aurelianus*, *Acut. Morb. Lib. 3. Cap. 3.* which, as *C. Amman.* observes, is, perhaps, the same with the *Oporice*, describ'd by *Pliny*, *Hist. Nat. Lib. 23. Cap. 14.* It is derived from ὄπωρος, autumnal Fruit.

DIOPSYRUS. A Name for the *Mespilus*; *folio rotundiore; fructu nigro, subdulci.*

DIOPTRA, διοπτρα, from διόπτωμαι, to see through. The Name of an Instrument for dilating the natural Cavities, in order to examine their State. Thus a *Speculum Uteri*, or a *Speculum Ani*, may be call'd a *Dioptra*.

DIOPTRON, διοπτρον. A Name for the *Lapis Specularis*, Muscovy Glass.

DIOPTRISMOS, διοπτρισμός. The Operation which consists in dilating the natural Passages with a *Dioptra*, or *Speculum*.

DIOROBON, δι' ὀρέβων. A Medicine describ'd by *Trallian*, *L. 5. C. 4.* in which Vetches (ορέβων) are an Ingredient.

DIORRHOSIS, διόρρωσις, or *Diorrhesis*, διέρωσις, from ῥέειν, or ῥέω, Serum. A Conversion of the Humours into Serum and Water. *Hippocrates.*

DIORTHOSIS, διόρθωσις, from ὀρθός, right. A Rectification or Restitution of a fractur'd Limb into its natural Situation.

DIOSANTHOS. A Name for the *Caryophyllus*; *tenuifolius; plumarius; flore pleno, purpurascens.*

It is a kind of single wild Pink, with small Leaves finely jagged, like Fringe or Feathers, of a white or carnation Colour.

The Flowers are cephalic, resist Poison, are good for the Stone and Epilepsy. *Lemery des Drogues.*

DIOSCOREA. A Plant so called by Father *Plumier*, in Honour of *Dioscorides*. We have no *English* Name for it. The Characters are as follows; It has a spreading Bell-shap'd Flower, consisting of one Leaf, which is divided at the Extremity into several Parts; from whose Cup arises the Pointal, which afterwards becomes a triangular Fruit, divided into three Cells, in which are contained orbicular bordered Seeds.

The Species are,

1. *Dioscorea scandens, Foliis Tamni, Fructu racemoso.* Plum. Nov. Gen. CLIMBING DIOSCOREA, WITH BLACK BRIONY-LEAVES, AND THE FRUIT GROWING IN CLUSTERS.

2. *Dioscorea scandens, Folio hastato, Fructu racemoso.* Houtt. CLIMBING DIOSCOREA, WITH A SPEAR-SHAP'D LEAF, AND CLUSTER'D FRUIT.

3. *Dioscorea scandens, Folio subrotundo acuminato, Fructu racemoso.* Houtt. CLIMBING DIOSCOREA, WITH A ROUNDISH LEAF, ENDING IN A POINT; AND CLUSTER'D FRUIT. *Miller's Dictionary.*

I find no Virtues ascrib'd to this Plant.

DIOSCURI, διοσκουρι. A Name in *Cassius*, *Prob. 30.* and the Author of the *Definitiones Medicæ*, for the *Parotides*; given them, as *Cassius* supposes, on account of their being a happy Prognostic of Recovery from an acute Disease; as the Appearance of the *Dioscure*, or *Castor* and *Pollux*, two Lights so call'd, were to Mariners a welcome Sign of the Abatement of a Tempest. The Word is compounded of Διός, the Genitive Case of Ζεύς, *Jupiter*, and κούρι, for κούρι, Sons, that is, Sons of *Jupiter*.

DIOSPHYRON, διοσφυρον, otherwise διοσπυρον, in *Theophrast. Hist. Plant. Lib. 3. Cap. 13.* is a Sort of Fruit like a Cherry; but reckon'd by *Galen, de Alim. Fac. Lib. 2. Cap. 38.* among the Aliments of small Nourishment, and bad Juice. *Castellus.*

DIOSPOLITICON, διοσπολιτικόν, a compound carminative Medicine, of which we have two Descriptions in *Galen, de Sanit. tuenda, Lib. 4. Cap. 5.* And *P. Ægineta, L. 7. Cap. 11.* reckons it among Antidotes, by the Name of *Diospolites*, διοσπολίτης.

DIOTA. A wooden Vessel or Cup, incrusted with Resin, Cinnamon, Cloves, and Ginger, in Use among the Inhabitants of *Lower Germany*, and other Northern Countries, with an Intent to give a greater Savour to their Beer. *Rhodi ad Scribonium Largium, Numb. 135.*

DIOXELÆUM. The Name of a Malagma, mentioned by *Cælius Aurelianus, Chron. L. 5. C. 2.* as a proper Application at the latter End of the Gout; and describ'd by *Actius*. It is thus call'd from the Oil and Vinegar in its Composition.

DIOXUS.

DIOXUS. The Name of a Collyrium in *Marcellus Empiricus*, C. 8. thus call'd from Vinegar, with which the dry Ingredients in it are reduced to the proper Form.

DIPCADI. A Name for the *Muscari*, *obsoletiore flore*, *ex purpura virente*.

DIPHROS, *δίφρος*. A Seat or Chair. *Hippocrates* mentions a Chair, the Seat of which was to be made of twisted Rushes, for the Convenience of introducing a Pipe through it, into the Vagina of a Woman, seated upon it; and through that a Vapour, by way of Fomentation, or Suffumigation.

Moschion, in his Treatise on the Diseases of Women, C. 46. 47. describes a Chair convenient for Women in Labour; and *Deventer*, in his Treatise on Midwifery; does the same.

DIPHRYGES, *Offic.* Aldrov. Mus. Metall. 14. Worm. Mus. 133. Charlt. Foss. 55. Schrod. 3. 359. Schw. 376. Matth. Ed. 1366. *Diophryges*, Calc. Musc. 461. SCURF. Dale.

There are supposed to be three Species of *Diphryges*; one metallic, which is produced only in *Cyprus*, where it is taken up from the Bottom of a certain deep Pool or Gulph, mix'd with Clay and Dirt; then dry'd in the Sun, and afterwards cover'd with dry Sticks, and burnt. Hence it is call'd *Diphryges*, [*δίφρυγες*, from *dis*, twice, and *φρυγες*, to torrefy] because it is burnt, dry'd, and, as it were, torrefy'd by the Sun, and the dry small Wood. Another Species of *Diphryges* is a sort of Sediment, or Dross, which is separated in the Working of Copper; for, after the Affusion of cold Water, in the same manner as was directed for the *Flos Æris*, [See the Article *Æs*] there will be found, after taking out the Copper, this Kind of *Diphryges*, adhering to the Bottom of the Furnace, and much resembling the Copper, both in Taste and Astringency. The third Species is made in the following manner: They take the Stone Pyrites, and calcine it for several Days together in a Furnace, till it acquires the Colour of Vermilion; which done, they take it out, and lay it aside. Some affirm this Species to be produced only of the Matter which perfects the Copper-stone, when this Matter, being torrefy'd in what they call the *Area*, is thence removed into Pits, and there burnt; for it lies all round the Pits, and is found as well after as before the Removal of the Stones. The best *Diphryges* is what tastes of Copper, is æruginous, astringent, and vehemently drying upon the Tongue; Qualities, of which burnt Oker, though sold for *Diphryges*, is destitute.

It is an Astringent, a potent Cleanser, Absterfve, and Drier; represses Excrescences of Flesh; induces malignant and spreading Ulcers to cicatrize; and, mix'd with Turpentine or Cerate, dissolves an Abscess. *Dioscorides*, Lib. 5. Cap. 120.

It is a sort of metallic Recrement, which subsides by an Affusion of cold Water on the melted Copper in the Furnace. At present the Shops are unacquainted with it.

It is of a mixed Quality, containing in itself something moderately astringent, and moderately acrimonious; for which Reasons it is a very good Remedy for all stubborn Ulcers. Dale.

DIPHTHERA, *δίφθερα*. An entire Goat-skin. The same as *ISALE*, or *IXALE*.

DIPLANGIUM. The same as *DIPLOMA*, which see.

DIPLOE, *δίπλα*. The soft Meditullium, which lies betwixt the two Laminæ of the Bones of the Cranium.

DIPLOMA, *δίπλωμα*. A double Vessel. To boil in *Diplomate*, is to set one Vessel, containing the Ingredients intended to be acted upon, in another larger Vessel full of Water; and to this last Vessel the Fire is to be apply'd.

DIPNOOS, *δίπνοος*, from *dis*, importing double, and *πνοω*, to breathe. An Epithet of Wounds, which penetrate into some Cavity, or quite through a Part; or have two *Spiracula*, or Orifices.

DIPSA, *δίψα*. Thirst.

DIPSACOS, *δίψακος*, from *δίψα*, Thirst. A Name for the Diabetes. But, in Botany,

DIPSACUS is the Teasel.

The Characters are,

The Root lives two Years; the Leaves are conjugated and prickly on the lower Part of the Rib. The End of the Pedicle is expanded into many long and narrow Leaves, ending in a Prickle, and, like a Calyx, surrounding a conic, long, and obtuse Head. This Head consists of a long, obtuse, conoidal Axis; round which grow rigid, short, excavated, and aculeated small Leaves, furnish'd with a serrated Apex, and serving as a Calyx to the Floscules. From the lowest hollow Part of this small Leaf, arises a long tetragonal Ovary, whose Apex is furnished with a foliaceous quadrangular Crown, and terminated with a fungous orbicular Placenta; from whose Centre proceeds a long Tube, furnish'd with a large Apex. From the Apex of the Ovary, within its Crown, arise a tubulous, quadrangular, quadrifid Floscule, furnished with four Stamina, proceeding from the internal Sides of the Floscule, and raised far above the superior Parts of the Floscule. All these Parts, being affixed very closely and densely to the same Axis, constitute the Head of the Plant. *Boerhaave*, Index alter, Par. 1.

Boerhaave mentions four Species of this Plant; which are;

1. *Dipsacus*; *Sylvestris*; aut *Virga Pastoris*; major. C. B. 385. Hist. Oxon. 3. 168. Boerb. Ind. A. 133. Tourn. Inst. 466. *Dipsacus Sylvestris* sive *Labrum Veneris*. Offic. J. B. 3. 74. Raii Hist. 1. 382. Synop. 3. 192. *Dipsacus Sylvestris*, Ger. 1005. Emac. 1167. Park. 984. *Dipsacus*, sive *Carduus Fullonum Sylvestris*, Chab. 352. *Dipsacus*, *Labrum Veneris ad agrorum margines*, C. B. 35. Merc. Bot. 1. 32. WILD TEASEL.

The wild Teasel grows as large and high; or rather higher than the manured, with such a stiff-crested and prickly Stalk, especially in the upper Part: The Stalk is generally single, divided into several Branches; the lower Leaves are long, narrow, and prickly underneath. The Leaves, which grow on the Stalks, are joined together, encompassing the Stalk, and catching the Rain; but it more particularly differs in the Heads, which have their Prickles growing erect, and not crooked or hooked, like the manur'd Teasel; and each Head having at the Bottom several prickly stiff Radii growing in a Circle about it: The Flowers grow in particular Cells, and are succeeded by the Seed. The Root is thick, and full of Fibres. It grows upon Banks in the Borders of Fields, and flowers in June and July.

The Virtues of both this and the manured Teasel are much the same; the Roots, which are the only Part used, being reckon'd to have a cleansing Faculty: The Antients commend a Decoction of them in Wine, boil'd to a Consistence, and kept in a brazen Vessel, to be applied to the Rhagades, or Clefts of the Fundament; and for a Fistula therein; and to take away Warts. The Water, found standing in the Hollow of the Leaves, is commended as a Collyrium to cool Inflammations of the Eyes, and as a Cosmetic to render the Face fair. *Miller's Bot. Off.*

2. *Dipsacus*; *fativus*, C. B. 385. J. B. 3. 73. Ger. 1005. Emac. 1167. Park. 983. Raii Hist. 1. 382. Synop. 3. 192. Hist. Oxon. 3. 168. *Dipsacus*, *fativus*, *Carduus Fullonum*, Offic. *Dipsacus*, *Carduus Fullonum*, Chab. 352. MANUR'D TEASEL. Dale.

The manur'd Teasel grows to be a large tall Plant, with a stiff, hard, furrow'd, very prickly Stalk. The lower Leaves are long, large, and sharp-pointed, indented about the Edges, smooth above, but having the middle Rib, of the under Part, full of sharp Prickles.

The Leaves, which grow upon the Stalks, wholly encompass them, like a Trough, or long Basin, catching the Dew or Rain which falls, and are likewise prickly underneath. The Stalks are divided into several Branches, bearing on their Tops large Heads, full of crooked prickly Hooks; among which grow several purplish hollow Flowers, each in a particular Cell; and after them come longish, square, striated Seed. The Root is pretty large and whitish.

It is cultivated in the Fields for the Use of the Cloth-workers, to dress their Cloths with, flowering in July. *Miller's Bot. Off.*

It agrees in Virtues with the *Dipsacus Sylvestris*.

The *Dipsacus* cures the Scrofula, and, in general, resists all Putrefaction, by a specific Quality, and is a medicinal and savoury Aliment. Boil'd in Wine, it purges by Urine as effectually as *Asparagus*.

The Root bruised, and mixed with Honey, has been found of extraordinary Virtue in Consumptions that have been regarded in a manner as desperate. *Raii Hist. Plant.*

3. *Dipsacus*; folio laciniato. C. B. P. 385. J. B. 3. 75. M. H. 3. 168. b.

4. *Dipsacus*; *sylvestris*; *capitula minori*; vel *Virga Pastoris*; minor. C. B. 385. Hist. Oxon. 3. 168. Boerb. Ind. A. 133. *Virga Pastoris*. Offic. Park. 984. *Virga Pastoris vulgaris*. J. B. 3. 74. Chab. 352. *Dipsacus minor*, sive *Virga Pastoris*. Ger. Emac. 1168. Merc. Bot. 1. 32. Raii Hist. 1. 382. Synop. 3. 192. SHEPHERDS-ROD.

It grows in moist and watery Places by the Sides of Hedges, and flowers in July. The Parts used in Medicine are the Leaves; the Water of which is commended by *P. Aegineta*, for a depraved Appetite in Women; and a Dram of the Powder is prescribed, *Prax. Mayern.* for a Spitting of Blood. Dale.

DIPSAS, *δίψας*. Dry Earth. But a certain Serpent is call'd by this Name, from the immoderate Thirst which is caused by its Bite. This Animal is by some also call'd *Causus*, and is a Species of Viper, most generally found in maritime Places, of about a Cubit in Length, thick, and becoming gradually smaller towards the Tail. Its whole Body is variegated with black and fallow Spots, and its Head is slender. Besides the other common Effects generally produced by the Bite of a Viper, those bit by the *Dipsas* are seized with a Degree of Thirst which is absolutely insatiable even by the largest Quantities of Liquor, whilst, at the same time, no Evacuations are made, either by Urine, Vomit, or Sweat. The Patients, therefore, who have the Misfortune to be bit by

this Animal, die, either of an excessive Thirst, when they do not drink; or, when they do, their Stomach, by the preternatural Repletion, is distended and ruptur'd; or the same Accident happens to the Parts about the Region of the Groins, and lower Belly, as in dropical Patients. For the Relief of Patients of this Kind, the same Measures are to be taken as in the Bite of the common Viper; only such Medicines as provoke Urine are principally to be used. The Body is also to be render'd soluble by purgative Infusions; and a Vomiting is to be excited by Oil, and Derogations proper for that Purpose. To the Place where the Wound is immediately inflicted, after the Extraction of the Poison, Scarification, the Application of Cupping-glasses, and Hens cut open, we are to apply Quick Lime with Oil, attractive Plaisters, and the Theriaca. *Actii Tetrabibl. 4. Serm. 1. Cap. 22.*

Celsus, in the twenty-seventh Chapter of his fifth Book, informs us, that in Wounds inflicted by the Ceraftes, the Dipfas, or the Hæmorrhoids, the Bulk of an Egyptian Bean of dried Asphodel is to be divided into two Doses, adding a proper Quantity of Rue to each. Trefoil, also, Horse-mint, and All-heal, [*Panaces*] with Vinegar, are equally beneficial: Costus, also, Cassia, and Cinnamon, may be exhibited with Success.

Aetnarius, in his sixth Book *de Methodo Medendi*, informs us, that in those Patients who are bit by the Dipfas, a palpable Tumor appears on the Part; and that they are seized with a Thirst which neither intermits, nor is capable of Alleviation. The Wounds inflicted by the Hæmorrhoids, and the Dipfas, are fatal, because Proof against the Power and Energy of Medicines. But we are to attempt the Relief of the Patient by the actual Caustery, if the Nature of the Part does not contraindicate its Use, or by the Amputation of the Member. Then acrid Cataplasms are to be applied, and Aliments of the same Quality are to be exhibited. The Patient is also to drink unmix'd Wine, bathe frequently, and carefully persist in the Use of such other Measures, as are thought to have a Tendency to promote his Cure.

DIPSETICUS, *διψητικός*. An Epithet for such Things as cause Thirst.

DIPSODES, *διψιδης*. Thirsty.

DIPYRENON, *διπύρενον*, from *dis*, importing double, and *πυρη*, properly a Berry, or Kernel, or the End of a Probe, resembling a Berry. The Name of a Probe, with two Buttons at one End. It is mentioned by *Cælius Aurelianus*, *Acut. L. 3. C. 3.* and by *Galen*.

DIPYROS, or **DIPYRITES**, *διπυρος*, or *διπυρίτης ἄρτος*. Bread twice baked, from *dis*, twice, and *πῦρ*, fire. *Hippocrates* recommends the Use of this Sort of Bread in a Dropsy. *Lib. de Morbis internis.*

DIRADIATIO. The same as **ACTINOBOLISMUS**, which see.

DIRCÆA. The Name for the **CIRCÆA**, Inchanters Nightshade. *Oribasius, in Medic. Collect. L. 11.*

DIRECTOR. A hollow Instrument to guide the Incision-knife, from *dirigo*, to direct. *Directores* is also a Name for the Muscles otherwise call'd **ERECTORES PENIS**.

DISCESSUS. A chymical Term, which the *French* call *Depart*, or *Liquart*. It signifies in general any Separation of two Bodies before united; but it is peculiarly applied to the Separation of Gold from Silver by *Aqua-fortis*; where the Silver is dissolv'd by the Menstruum, but the Gold remains untouched.

DISCOIDES, *δισκοειδής*. An Epithet of the crystalline Humour of the Eye, in *Actius, Tetrabibl. 2. L. 3. C. 1.* from its round Form, like a Disk.

DISCRETA Purgatio, in *Fallopian*, is that Sort of Purgation which evacuates a certain and determinate Humour.

DISCUS, *δίσκος*. Truth, like some of the most precious Stones, is often so conceal'd and blended with other Things of a near Resemblance, that it is hard to distinguish the one from the other, without the greatest Care and Diligence. In no Instance does this Observation hold more remarkably true, than with respect to the *Discus* of the Antients, and the various Manners in which it was used. That it was a Body employ'd in their gymnastic Art, for preserving Health, and strengthening the Constitution, is a Circumstance of which we are sufficiently certain; but, as to its Form, its Dimensions, and various Uses, Authors disagree so much, that we are, in a manner, obliged to put up with Probability, instead of Certainty: For some inform us, that the *Discus* was a certain round Instrument, sometimes so heavy, that one Man was scarce capable of lifting it. Sometimes we find, that the Figure of this Instrument resembled that of the Sun, since *Alexander Trallian* calls the Body of the Sun *δίσκος*. The Word *Discus* also signified, among the Antients, a certain Vessel, in which Dishes of various Kinds were served up to the Table. *Eustathius*, in commenting upon these Words, *δίσκοισιν τέλειοντο*, in the eleventh Book of *Homer's Iliad*, tells us, that the *Discus* was a heavy Stone, thrown in a particular Manner by those who

used it; and which, when made of Iron, they call'd *δίσκος*. Others, with whom *Hieronymus Mercurialis* agrees, are of Opinion, that the *Discus* was a certain Body, three or four Inches thick, somewhat more than a Foot in Length, sometimes made of Stone, sometimes of Iron, and sometimes of Brass. *Hieronymus Mercurialis*, the best Judge of these Matters now extant, takes the greater Part of the *Disci* of the Antients to have been of a plain Figure, resembling that of a Lentil; that, by the Advantage of this Form, they might be secured from breaking, when they fell from considerable Heights. These Bodies they threw into the Air; but in a manner quite different from that in which they threw their Darts; in throwing which, they extended the Arm, retracted it to a proper Degree, and then discharged the Instrument; whereas, in throwing the *Discus*, they brought the Arm close to the Trunk of the Body, hung it downwards, and somewhat backwards; and thus, with a rotatory kind of Motion, threw it into the Air. That this was the manner in which it was thrown, seems pretty obvious from this elegant Line in the twelfth Elegy of the third Book of *Propertius*;

Missile nunc disci pondus in orbe rotat.

That the Figure of the *Discus* resembled a Lentil, is not only probable from *Dioscorides*, who call'd a Lentil *δίσκος*, but, in a manner, confirm'd by the Marble Statue of a Thrower of the *Discus*, preserved at *Rome*, in the House of *Jobannes Baptista Victorius*, since, in the Hand of this Statue, there is a *Discus* of the same Form with a Lentil. The Manner of throwing the *Discus* we also learn from the Statue of a Thrower of the *Discus* belonging to the Great Duke of *Tuslany*. That there was a certain Art in throwing this Instrument, is certain, since the unskilful Throwers were ridiculed, and frequently hurt some of the Spectators, in consequence of their Want of due Dexterity. The Intentions of this Exercise were various: For it was used with a View to render Soldiers, in the Times of Peace, hardy and robust: Thus *Homer*, in the eleventh Book of his *Iliad*, supposes *Achilles*, when angry with *Agamemnon*, to have drawn off his *Myrmidons* from fighting, and exercised them on the Sea-shore in throwing the *Discus* and Darts, in order to prevent that effeminate Turn, which a State of Peace palpably generates in the Minds of Men. All Authors have also agreed, that the *Discus* was an Exercise used by the Wrestlers in their Contests, either for Glory, or the Entertainment of the Public. *Galen*, on the other hand, *Actius*, *Paulus Aegineta*, and *Avicenna*, enumerate the Throwing of the *Discus* among those Exercises which were performed for the sake of Health.

DISCUS, in Botany, is explained under the Article **BOTANY**.

DISCUSSIO, *διασκόπισις*. See **DIAPHORESIS**.

DISCUSSORIA, **DISCUTIENTIA**, *διασκορητικά*, *Discutients*, are such Medicines as by their Subtlety dissolve a stagnating or coagulated Fluid, and dissipate the same without an external Solution of Continuity.

Doctor *Freind*, in his History of Physic, whilst giving an Account of *Actius*, remarks, that he speaks very sensibly of Remedies design'd for Discussing or Suppurating.

"When any Hardness," says *Actius*, "begins, and some Sense of Feeling still remains, emollient Medicines should be applied, such as, at the same time, moderately discuss; and many there are, which partake of both these Qualities: For violent Discutients, which evacuate without softening, do, indeed, lessen the Swelling; but leave afterwards an incurable Evil. For, the thinner Humours being exhaled, those which are more gross and terrene stay behind, and are not to be removed by Art: Therefore such Applications should be used, as have a Mixture of both. First, therefore, we should try Emollients, then proceed to Discutients, and mix them, by degrees, with the other. The Habit of the Body must likewise be considered, as well as the Condition of the Swelling. By this means we may attain to a Knowledge, conjectural indeed, but not entirely devoid of Art: And, by trying the Experiment two or three Days, in the manner describ'd, we may easily discern, whether we should diminish or increase the Force of the Medicine." And, when he comes to mention the Distinction between Discutients and Suppuratives, he is still more explicit: "Those," says he, "who have described the Virtues of compound Medicines, have called some Plaisters drawing, and some discussing: There are, too, those which share both these Qualities, which have a great Affinity one with another: For those that draw, do, at the same time, discuss; and those that discuss, draw: And they act either way with more Energy, according as the predominant Quality prevails. And therefore, when we reduce them to the Form of a Plaster, we mix with them sometimes Pitch, sometimes Wax, sometimes Oil, or Rosin, and the like; such Substances not having, in any degree, either a drawing or a discutient Faculty."

And

And yet, when he comes to give us a Detail of these Plaisters, he leaves us in Confusion and Uncertainty as to the Operation of them; and does not distinguish enough, which are most proper for Discussion, and which for Suppuration; nay, often the same Plaister is recommended strongly for both Intentions. What he says of some discussing Plaisters, is very extraordinary, not to say extravagant; he has one, which he styles a most wonderful Discusser of Abscesses; and that called *Helladicum*, he tells us, disperses Abscesses, when turned into Pus. But I may, I believe, venture to affirm, that 'tis out of the Power of any Medicine, to work such a miraculous Change in Abscesses, which arise upon an Inflammation: For as many times no Application will hinder the Formation of Matter in a Tumor, so, when it is once made, I conceive it is certain, that no Art can give any Cure, but by letting it out. But as this Subject wants some farther Explanation, allow me to enlarge upon it, so far, at least, as this Author shews me the Way. One would naturally think, that the Practice of outward Applications, which began so early, and has continued in all Ages almost the same, might have been settled and adjusted to an exact Nicety. No Distempers have ever oftener occurred, than humeral Tumors: And yet, if we look into the Writers of Surgery, antient as well as modern, tho' they have been very luxuriant in distinguishing these Tumors into their proper Species and Families, we shall find this Subject handled with so much Perplexity and Confusion, that the Indications, and the Remedies, will appear to us equally uncertain. To re-examine only the two most general Ways already mention'd, in which Tumors are treated, and those very distinct from, and contrary to, one another, Discussion and Suppuration: If our Practice must be directed by what we read, we shall often find ourselves at a loss, which of the Methods ought to be followed; or, if we should chance to find it, what Medicines must be applied to make that Method succeed; one Author extolling that for the best Discussant, which is as vehemently recommended by another to promote Suppuration; tho' sure, if we would make use of the Light which Anatomy gives us, into the true Texture of the cutaneous Parts, nothing might be more clearly explain'd, than the Nature and Reason of these Operations. In order, therefore, to form a right Notion of Discussion, we must first of all suppose, that the several Fluids which make these Tumors, are, as yet, contain'd in their proper Vessels: But an Obstruction arising in the capillary Arteries, either from a Fault in the Blood, or from external Accidents, the Humours, which should circulate, stagnate in the Part affected, and, by a continual Afflux, distend the Vessels so much beyond their Dimensions, as to raise a Swelling. Now from the very Account here given, of the Production of a Tumor, 'tis plain what are the proper and genuine Intentions of Discussion, which are two; that is, to open the Pores so, as that the redundant Matter may be, in some measure, discharg'd by Perspiration; and to attenuate and alter the Humours so, (and not only by outward, but by inward Methods) that they may recover their usual Course, thro' the capillary Vessels: And these two Designs must be carried on jointly, which are the adequate Means to make the Tumor subside and vanish: For, if we should only pursue the first Intention, that of opening the Pores, the thinner Part of the Matter, as *Actius* very justly observes, would fly off, whilst the Remainder grows stiffer, fixes the Obstruction, and thickens the Membranes. Hence so often, upon the Use of violent hot Discussives, which promote too free a Perspiration, is left an incurable Induration and Scirrhus; in the same manner as in some Fevers, especially what are called the Slow, too liberal a Use of Diaphoretics, without proper Evacuations, renders the Blood more viscous than it was before, and more liable to Stagnation; which ill-judg'd and preposterous Method not only gives no Relief to the original Complaints, but lays a Foundation for many Distempers, and perhaps of a worse Kind, to succeed. If we consider this Matter with any Attention, we shall easily perceive, how ill Discussion is defined by some Writers of Institutions, to be an insensible Evacuation; the second Intention to attenuate and alter the Humours, which is of equal Necessity, being left out in the Definition. For this Reason, in order to make a right Discussion, we find *Actius*, and, after him, *Hildanus*, advises always some Share of emollient Ingredients, whose Particles may serve to qualify the Force of the others, and restrain the too vehement and precipitate Diffusion, that would otherwise be made thro' the Skin. And, with the same View it is, that some practical Writers commend a Mixture of spirituous and oily Medicines, not only to discuss Swellings, but to ease Pain. Accordingly our Experience tells us, how effectual Oil of Turpentine, and all chymical Oils are, in these Cases; which are nothing else but Spirits locked up, and, as the Phrase is, concentrated by some oleaginous Substance; as we may argue from their easy Rarefaction, and quick Ascent, by Fire; and therefore, upon repeated Distillations, being more freed from the viscous Particles, they are converted into Spirits, and are so called. So necessary it is to

carry on the Intention of Attenuating, at the same time that we make a Discharge. Hence those Applications, which have a Mixture of Mercury in them, prove the most effectual Discussives; and a Medicine chiefly consisting of Cinnabar, is what is most recommended by *Alexander Trallian*, for dissolving the Concretions in the Joints, which arise from a Rheumatism or Gout: Accordingly we should never fail of seeing the same Effects, if Opium and Camphire, two of the most attenuating Substances which, perhaps, we have, had a larger Proportion in discussive Compositions. On the other hand, we must pursue this Design of Attenuating, in such a manner, as not to use those Things, which clog or obstruct the cutaneous Passages. Oils, which are very glutinous, come under this Character; and therefore *Actius*, upon the Application of the *Persian* Plaister, which he describes, and even commends to a degree of Rapture, gives a particular Caution, that no Oil should be linear'd upon the Part. *Galen* expressly says, that Oils stop the Pores; and, accordingly, advises Unction after Bathing, for this Reason, that they should not perspire too much: And Oil of Mastic is a Remedy much esteem'd by our Author for the Cure of immoderate Sweats, because it obstructs the Pores. Upon the same Principle, *Caelius Aurelianus* argues against the Application of Oil of Roses, in the Accession of a Phrensy: And it was more upon this account, no doubt, that the Athletics among the Antients used to anoint all their Bodies over with Oil, than for the Reason commonly assign'd, of making any fast Hold more difficult: For Perspiration being stop'd, there was a larger Supply of Blood and Spirits to the Muscles, which enabled them to exert a greater Force and Vigour, during their Exercises. Therefore, perhaps, the Invention of Unction is generally attributed to *Herodius*, who was the first that prescrib'd gymnastic Medicines. *Hippocrates* and *Galen* forbid the Use of Oils and Fats in fresh Wounds and Ulcers; for this Reason, that they keep in the Matter, which should be discharged, and often occasion a Fungus: And *Hildanus*, in the Composition of his *Unguentum Aegyptiacum*, so highly commended by himself, and others, for the Cure of Gangrenes, tho' now not so much in Vogue, uses neither Oil nor Fat: And 'tis no impertinent Caution, which he gives about the Cataplasim he recommends for the same Purpose, that great Care should be taken, lest the Flowers of Beans and Lentils he makes it with, should be boiled too much, and, by that means, contract a Viscosity, so as to endanger a Stoppage of Perspiration: And the Reason is plain to any one, who understands the Anatomy of these Parts: For we see the Plates of the Cuticle so disposed and ranged, one over another, in such a manner, that they are often stuck and glewed together, even by so thin and subtle a Substance, as that of Perspiration itself: So, in Inflammations and Strains, the glutinous Oils are certainly prejudicial; and, instead of discussing the Swelling, bring it to Matter; and, if this be superficial, and near a Bone, to the no little Hazard of making it foul. The like Observations have been made of strong suppurative Medicines, used at first in a Paronychia, when the Tumor has lain deep, and close to the Bone; and, in this very Case, you will find a different Practice marked out by *Actius*. Our own Surgeons with great Judgment divide the Tumor lengthways, upon the Sides of the Tendon, which saves the Patient a great deal of Pain, and secures him from Danger. Wax is ranked only amongst the Suppuratives by *Celsus*, and, no doubt, properly belongs to that Class: And yet, what a Share is allowed it now in discussive Applications? Gums and Rosins, tho' they are complex Substances, and have a Mixture of penetrating Parts, yet they contain some too of such a glutinous Nature, as *Actius* himself acknowledges, that they seem adapted more to close the Pores, than to clear them: And therefore, by *Fallopian*, who has distinguished better between Discussants and Suppuratives, than most Writers, are thought improper for the Intention of Discussing. *Hildanus* gives us many Instances of the mischievous Consequences of *Paracelsus*'s Styptic Plaister, so mightily cried up in his Time for the Cure of Wounds; and he attributes these ill Effects to the large Proportion the Gums have in it, which, he says, constantly increase the Flux of Humours to the Part they are applied to. So in Phlegmons, gummy Plaisters laid on too early, raise the Swelling, and heighten the Pain: For when we rarefy and attract the Humours, and, at the same time, obstruct the Pores, so as to hinder a free Discharge, we are so far from promoting Discussion, that we put Nature upon another, and, indeed, a quite different Effort, that of Suppuration: And yet, if we examine the Composition of the discussant Plaisters and Ointments now in vogue, I am afraid many of them will come under this Censure. The Practice of the Antients was, no doubt, more simple and uniform. *Hippocrates*, without Dispute, understood Surgery very well; and yet, we read of no Plaisters in his Works: He uses a few Cerates only, and those but seldom. The Ointments he mentions were not any thing like what we call so now; but were either simple Oils, or an Infusion of Herbs made in Oil: But we find his Practice in

Discussion ran wholly upon Fomentations; a way, perhaps, which he thought most proper, both to extract the Virtue of the Plants, and to convey it into the Vessels, where the Tumor is. In *Celsus's* Time, the *Materia Medica* was much enlarged; and, as his chief Excellency lay in the surgical Part of his Writings, so we see outward Applications bear the largest Share in them. However, if we look into the *Magma's*, which he describes for Discussives, we shall find a less Proportion in them of Oil, Fat, or Wax, than in our modern Receipts. The Composition of Medicines was still much improved in the Time of *Andromachus*, and brought to more Perfection in *Galen's*; and, even after that, as we may learn from *Aetius*, great Additions were made to this Part of Pharmacy; yet, notwithstanding the Ingredients were numerous, they were not altogether inconsistent: For either there were none of those gross Substances mixt with the Discussients; or, if they were put in for the sake of the Form, a larger Share of warm Ingredients was always added, to make Amends. Upon Examination, I believe it would appear, that these Rules have not been so well pursued in the succeeding Ages; particularly with regard to compound Ointments. Perhaps, what *Zwelfer* observes of *Agrippa's* Ointment, may be justly applied to most of the others, which are used for Discussing; that the Juices or Roots, boiled, would do better without the Wax or the Oil: And therefore, in most Cases where discutient or strengthening Ointments are applied now, *Hippocrates* used Fomentations made of the Herbs infused in Water. A like Simplicity you may meet with in the Plaster of *Nechepso*, mentioned by *Aetius*: where the Leaves of Cypress are only pounded and soaked in the second Droppings of new Wine: This he commends for an admirable Discussive in strumous Swellings, and assures us, it will cure in seven Days. He says there is a natural Property in this Medicine, which makes it a kind of Specific in this Case; and therefore adds, that if you would change it, or mix any thing else with it, you will do more Harm than Good. Indeed in all the Compositions for Discussion, the Mixture of glutinous Things seems not to contribute to their Efficacy, but to their Consistence only. And might not this more particularly be said of mercurial Ointments and Plaisters? which, perhaps, would sooner answer the End of Discussing, if the Mercury was only mixed with a little Turpentine, in the manner which *Fallopian* used, or with Lard, than, as is the general Practice, with an unreasonable Heap of glutinous and mucilaginous Substances, which by clogging the Pores, only serve to hinder the Mercury in its Operation; and, in a literal Sense, to kill it. As to the Use of Plaisters in this Case of Discussion, *Galen* excepts against the very Form, as being too harden'd and stiff; and therefore in Phlegmons, which are to be discuss'd, he advises Liniments only, as less likely to obstruct the Pores. Of such a Sort of Consistence are the *Emplastra ex succis*, described by *Aetius*, where the Juices of the Plants are boiled up in Oil only. Yet in oedematous Swellings, at least, Plaisters are proper, and may in some Sense be said to serve for a Bandage or Compress, to force the Humours into their usual Channels.

Thus we see what are the proper Methods, which Nature, and her best Interpreters, point out for Discussion: And from what has been said upon this Head, we may easily form a right Notion of Suppuration; to effect which, we must, indeed stop the Pores, so as to leave no Vent thro' the Skin, but at the same time rarely and attract the Humours so, that by the great Distention they make, they may burst the Vessels; which, when extravasated, and brought to Digestion, appear in the Form of Pus. And from hence it is, that if we open a Tumor too soon, when the Matter is crude, we hinder it from ripening: Therefore all those Medicines, which have been mention'd as improper for Discussion, are the best Suppuratives; accordingly *Galen* says, they ought to consist of gross Parts; and the *Tetrapharmacum*, composed of Pitch, Fat, Rosin, and Wax, is thought to be the strongest Suppurative by *Celsus*. So in Wounds, the Matter is at length brought to Digestion by the Application of emplastie Medicines: And, as was observed in Discussion, that extremely viscous things ought not to be admitted; so neither any thing that is very discutient or deterfive, should be mixt in those Applications designed only to suppurate; for the Reason *Hallerius* gives in this Case, because we then open the Pores which should be shut: And there have been too many unfortunate Instances, where the Intention has been to suppurate, and Applications used all the while to discuss. For, when the Matter is of itself tending to Suppuration, any Endeavour, by way of Discussion, or Evacuation, does but divert it from coming to a Head, and so prolong, if not wholly frustrate, the Cure: On the contrary it is plain, that while we are carrying on the Design of Discussion, we ought to use at the same time all inward means of emptying the Vessels, and removing the Obstructions in them, as *Aetius* every-where inculcates: for else, instead of Discussing, we bring the Tumor to Suppuration. Nature is always simple and uniform; and Art, to succeed well in following her, must always tend to the same Point. And certainly, if this Part of

Surgery were set in a more distinct View, by those who are Masters in that Way, and the Effects of outward Applications better adjusted and explained, nothing would give us a greater Light into the Virtues and Operations of internal Medicines. *Freind's History of Physic.*

I will not be answerable, that the Doctor is entirely in the right, when he says, that Oils, and unctuous Ingredients, are not proper for promoting the Intention of Discussion: For the Discussion of an inflammatory Tumor is, as I apprehend, brought about, rather by rendering the stagnating Matter, which forms the Tumor, capable of circulating in the Vessels adapted to receive it in a State of Health, than by attenuating it to such a degree, as to make it perspire thro' the Pores of the Skin. Ingredients, therefore, of an oily Nature, relax the Part to which they are apply'd; and, in consequence thereof, enlarge the Diameters of the too-much contracted Blood-vessels, and render them more easily pervious to the obstructing Matter, especially when attenuated by warming Ingredients, apply'd at the same time. See ALEIPHA.

DISEPHTHOS, *διεφθός*. The same as DIPYROS, which see.

DISLOCATIO. The same as LUXATIO, which see.

DISPENSATOR. The Apothecary is sometimes so called, principally when consider'd as actually preparing and compounding Medicines; for he who collects Simples, and ranges them in proper Order, is said, in the Language of the Shops, to *dispensate*.

The Archeus is called the natural *Dispensator* of Minerals by *Ger. Dorneus*, in *Genealog. Mineral. C. 8. Vol. 1. Theat. Chym.*

DISPENSATORIUM, Dispensatory, is the Place, or Shop, where Medicines are prepared; but more frequently signifies a Book treating of the Composition of Remedies.

DISPLICENTIA, *δυσπλίστης*. See DYSARESTESIS.

DISPOSITIO. The same as DIATHESIS.

DISRUPTIO. A Species of violent Puncture, which penetrates the Skin to the Flesh. *Castellus* from *Avicenna*.

DISSECTIO, Dissection. The cutting up a Body, with a View of examining the Structure of the Parts.

DISSEPTUM. The Diaphragm.

DISSOLVENTIA. Medicines which dissolve Concretions in the Body, that form Obstructions, are call'd dissolving Medicines.

In Chymistry, Dissolvents are the same as MENSTRA.

DISSOLUTIO, Dissolution. It imports also a Syncope, that is, Fainting, or sometimes Death.

DISSOLUTUS *Morbus*. A Name for the Dysentery.

DISTENTIO, Distention. It signifies either simply Dilation, or Pandiculation; or a Convulsion, as *Nervorum Distentio* almost always implies.

DISTICHIA, or DISTICHIASIS, *δίτιχία*, or *δίτιχιάσις*. From *δίς*, importing double, and *τίχην*, a Row, or Order. A Disease of the Eye-lids, which consists in their having a double Row of Hairs, or, at least, supernumerary Hairs. *Galen. Aetius.*

DISTICHUM. Of the same Derivation as the preceding Word. That Species of Barley, which has only two Rows of Grains. *Blancard.*

DISTORTIO, or DISTORSIO. It is apply'd to the Eyes, when a Person seems to turn them from the Object he would look at, which is call'd Squinting; or to any Part of the Body, when not in its natural Situation.

DISTORTOR ORIS. A Name for the *Musculus Zygomaticus*. See CAPUT.

DISTRACTIO, in Chymistry, is a forcible Division of Substances from each other, which were before united, either by Separation, or Calcination. *Rulandus.*

DISTRIBUTIO, Distribution, in Medicine, relates to the nutritious Juices, and is the same as ANADOSIS: Or to the Excrements, and is the same as *Diachoresis*, or *Diachorema*. Or it sometimes implies Division.

DITRICHIASIS, *δίτριχιάσις*. From *δίς*, importing double; and *τρίχιν*, a Hair. The same as DISTICHIA.

DIVAPORATIO, Exhalation.

DIVERSORIUM. The *Receptaculum Chyli*. *Castellus.*

DIVERTALLUM, in *Paracelsus* is whatever is generated of Elements. *Rulandus* defines it, *Generatio Elementorum*.

DIVIDENS FASCIA. The Name of a Bandage for the Neck. See FASCIA.

DIVINUS. A pompous Epithet for many Compositions, on account of their suppos'd Excellencies.

DIURESIS, *διούρησις*. From *ὑρῶν*, Urine. An Excretion of Urine. Hence

DIURETICA. Medicines which provoke a Discharge of Urine.

Those Medicines, which eliminate the salt Serum impregnated with gross, terrestrial, and recrementitious Parts by the urinary Passages, are call'd *Diuretics*. The Medicines of this Kind are, by *Celsus*, in the thirty-first Chapter of his second Book, characteriz'd and enumerated in the following Words:

“*Envy*

“ Every fragrant Vegetable, which is cultivated in Gardens, provokes a Discharge of Urine; such as Smallage, Rue, Dill, Basil, Mint, Hyssop, Anise, Coriander, Garden-creffes, Rocket, Fennel, Asparagus, Capers, Cat-mint, Thyme, Savory, Nipplewort [*Lampfana*], Parsnip, Skirret, and Onions.” But of the vegetable Kind, I recommend, says *Hoffman*, as Diuretics, the Roots of Parsley, Seleri, Asparagus, Grass, Liquorice, Madder, Parsnip, Crow-foot, Pareira-brava, Acemella; the Herbs, Parsley, Ground-ivy, Horse-tail, Chervil, common Nettle, all Leeks, and all the Species of Garlick; the Flowers of Butchers-broom, and Blue-bottles; the Seeds of Carrot, Parsley, Seleri, Fennel, Gromwell, common Nettle, Violets, the Four greater cold Seeds, the Seeds of Club-moss, Winter Cherries, Dog-hips, Juniper-berries, Strawberries, the Wood of the Juniper-tree, Sassafras, and its Bark. Among Resins and Balsams, Mastich, Amber, the *Balsamum de Mecha*, and the Balsam Capivi. In the Animal Kingdom, Cantharides, Millepedes, May-worms, Scorpions, Toads, Earth-worms, Cochineal, and Whey. To the Class of Diuretics, also, belong all alkaline Salts prepar'd by Incineration, as also the Salt of Amber, the *Arcanum Duplicatum*, a Solution of Crabs-eyes and Nitre. The compound Medicines belonging to this Class are, the *Lixivium Benedictum* of *Mynsicht*, the Tincture of Tartar, the acrid Tincture of Antimony, the *Terra foliata Tartari*, the *Liquor Silicum*, the Lithontriptic Liquor of *Michaeli*, soluble Tartar, the Spirits of Turpentine, Mastich, and Amber, Balsam of Sulphur with Oil of Turpentine, Balsam of Juniper, Oil of Juniper, *Malvaticum Juniperinum*, the *Syrupus Dialthææ* of *Fernelius*, and the *Trochisci Alkekengi*.

As the Discharge of the Urine may be impair'd and render'd difficult from several Causes, such as, first, a Defect of due Moisture in the Blood, or, secondly, thick and tenacious Juices, obstructing the small urinary Duets of the Kidneys, thirdly, a violent spasmodic Constriction of the renal Duets, or fourthly, their preternatural Relaxation and Weakness, so also the Medicines calculated for restoring a due Discharge of the Urine, must be adapted to the Removal of these several Causes. Thus, for Instance, some Substances, by conveying a due Degree of Fluidity to the inspissated Blood, augment the Discharge of Urine; of which Kind are all aqueous diluting Medicines, liberal Draughts of Spring-water, whether cold or warm, especially if Herbs of a diuretic Quality are infus'd in them: This Intention is likewise answer'd by Tea and Coffee, as also by mineral Waters, either hot or cold, as they not only dilute the Blood, but, by their alkaline Quality, dissolve the viscid and tenacious Humours, and remove the Obstructions of the Kidneys. The same Effect is produc'd by Whey, which is possess'd of an aqueous, abstergent, and gently stimulating Principle, as also of a sweet nitrous Salt. Other Substances dissolve the tough and viscid Humours which obstruct and block up the secretory Duets of the Kidneys, and, by that means, render them fit for performing their Functions. Of this Kind are all fix'd Salts, and the Lixiviums prepar'd from them; as also Tincture of Tartar, the acrid Tincture of Antimony, the *Liquor Silicum*, the *Terra foliata Tartari*, the *Tartarus tartarizatus*, the *Arcanum duplicatum*, a Solution of Crabs-eyes, and the *Magnesia alba*, which, with the Acid of the *primæ Viæ*, is converted into an aperient Salt; as also, the Tincture of Quick Lime, Mother of Pearl, and Coral, prepar'd with Citron-juice; as also the Salts obtain'd by Exhalation from mineral Waters. Other Substances soothe and alleviate the spasmodic Constrictions of the Emunctories of the Kidneys, which obstruct and prevent the due Discharge of the Urine. The most considerable and efficacious of this Kind are, Nitre, the Four greater cold Seeds, and Emulsions prepar'd of them; the Seeds of the white Poppy, of Carrot, and of Club-moss, as also Winter Cherries, and Troches prepar'd of them: The same Intention is answered by the anodyne mineral Liquor, which is both a safe and efficacious Medicine; as also by Saffron, and its Essence; the Juice of Grass, in consequence of its nitrous Salt; a Decoction of the Roots of Grass and Asparagus, and Oil of sweet Almonds, which is a Liquor of a highly demulcent Quality. Other Substances, by their oleous, subtil, and balsamic Principle, corroborate and strengthen the Kidneys; such as Mastich, Amber, the *Balsamum de Mecha*, the Balsam of Capivi, Turpentine, the Wood and Berries of the Juniper-tree, Sassafras, Parsley, Parsnip, Fennel, Anise, Crow-foot, Seleri; and the Oils, Essences, Spirits, Decoctions, and Infusions of them. Other Medicines corroborate the Kidneys, by their strengthening, fix'd, terrestrial, and sulphureous Principle. Of this Kind are Dog-hips, Rob of Juniper, and the *Malvaticum Juniperinum* prepar'd of it, dried Strawberries, Pareira-brava, Ground-ivy, the Bark of the Root of *Egyptian Thorn*, Horse-tail, Paul's-betony, and Chervil. Lastly, other Medicines powerfully stimulate the renal Duets, when they are so far weaken'd as to have their Functions either impair'd, or totally destroy'd: Of this Kind are almost all Insects, especially Cantharides, Millepedes, Spiders, Scorpions, and dried Toads: And, in the

Vegetable Kingdom, all the Species of Leeks and Garlick.

Since there is so great a Difference among diuretic Medicines with respect to their Principles; and Manner of Operation, their Use must, of course, be different, and they must be judiciously adapted to the particular Natures of different Cases; for if to plethoric Patients, labouring under the Stone, we should before Venesection, and the Diminution of the Quantity of the Blood, exhibit hot Substances impregnated with a subtil balsamic Oil, such as Preparations of Turpentine, and Juniper, or the Balsams of *Mecha*, *Capivi*, or *Peru*; or acrid Substances; or such Insects as abound with a caustic Salt, Garlick, Onions, or Leeks, we should certainly injure the Patient, bring on an Inflammation of the Kidneys, and promote the Generation of Stones. On the contrary, in moist, less delicate, and more robust Patients, who live upon coarse Food; as also in Diseases arising from a Redundance of impure Serum, a Fluor Albus, a Gonorrhœa, a Disposition to an Anasarca, and Leucophlegmatia, these drastic Medicines are of singular Use and Service.

Still greater Misfortunes are produc'd by acrid and stimulating Substances, in Cases where, in consequence of spasmodic or nephritic Pains, a Discharge of the Urine is suppress'd. Disorders of this Nature are far more safely and efficaciously remov'd, by such Medicines as alleviate Pain, and relax Strictures; such as Winter Cherries, the Seeds of Carrot, Club-moss, white Poppy, and Gromwell; as also Emulsions of the Four greater cold Seeds, the *Trochisci Alkekengi* with Opium, antimoniated Nitre depurated, the Waters of the Leaves of Meadow-sweet, of the Lime-tree, and of the *Egyptian Thorn*; Oil of sweet Almonds, sweet Spirit of Nitre, the anodyne mineral Liquor, Whey; and externally, emollient Baths, and Fomentations; the Virtues of all which are so great, that, by alleviating the racking Spasms, they not only restore the free Discharge of the Urine, but also facilitate the Progress of the Stone thro' the Ureters, and promote its Expulsion.

In Disorders arising from a Redundance of Salt and tartareous Serum, which is generally the Cause of arthritic and rheumatic Pains, this peccant Humour is carried off by gentle Diuretics, tho' not of the hot Kind, lest, by their means, the Spiculæ of the Salts should be put into a brisker Motion, and the Parts in which they are lodg'd, be more violently rack'd. The gentle Diuretics, by which this Intention is most effectually answered, are, the Roots of Sarsaparilla, Pareira-brava, Sassafras, and China-root; as also those of Liquorice, Asparagus, Madder, Succory, Fennel, Parsley, and Grass, together with the Wood of the Juniper-tree; and the Preparations of these boil'd in Broth made with Fleth, or in Water. To this Class, also, belong Whey, and, more especially, the temperate mineral Waters, and warm Springs.

But in Cases where peccant, viscid, and tenacious Humours are lodg'd in the urinary Bladder, and especially when the Intention is to expel the first Beginnings of a Stone, more acrid and powerful Medicines become necessary. This Intention is answered by Garlick, exhibited with Spirit of Juniper; as also by the Powder of Millepedes, May-worms, Essence of Cantharides, and Tincture of Antimony, *Liquor Silicum*, and Tincture of Quick Lime; which may also be cautiously exhibited in a virulent Gonorrhœa, when a viscid and tenacious Matter lodg'd in the Prostatæ, the Neck of the Bladder, or the Urethra, is to be carried off by Urine.

But the most safe and efficacious Medicines for procuring a free Discharge of the Urine, are all Kinds, not only of alkaline fixed Salts, but also those call'd neutral; for they not only dissolve the tough and viscid Juices, which obstruct the urinary Duets, but also, by a gentle Stimulus, promote their Discharge. This Intention is excellently answer'd by Solutions of the Salt of Tartar, Pot-ash, and fix'd Nitre, as also the *Tartarus vitriolatus*, Salt of Wormwood, the *Arcanum duplicatum*, a Solution of Crabs-eyes, *Tartarus solubilis*, the *Terra foliata Tartari*, antimoniated Nitre, and *Sal Polychrestum*.

These Medicines not only contribute to restore a due and natural Discharge of the Urine, but also produce some other excellent Effects in the Cure of Diseases: For, as many of them are possess'd of an aperient and inciding Quality, as others of them are corroborative, balsamic, and restore the Tone of the Parts; and others of them of an anodyne Nature; so they prove highly efficacious in those chronic Disorders, which arise from an Obstruction of the Glands of the Viscera, and Emunctories, or from an Impurity of the Juices, or a Redundance of saline, acrid, and tartareous Serum. And certainly, if Relief is to be expected from any Medicines in Dropsies, cedematous Swellings, stony Concretions, the Gout and arthritic Pains, we are to look for it from the prudent Use of Diuretics: But we are to beware of all hot, acrid, and caustic Diuretics, and use those which are of a milder Nature, and fit for common Use, such as small *Moselle* Wine, the *Selteran* mineral Waters, and such Ales and Decoctions as are gently diuretic. *Frederic. Hoffman. Medicin. Rational. Systemat.*

That

That many have been freed from Fevers after copious Discharges of Urine, we are informed of by the judicious *Hippocrates*, in his *Epidemics*; who, as he was a careful and diligent Observer of the various Species of Urine, so he seems principally to have drawn his curative Indications from them; but whether, in Fevers, he exhibited such Medicines as provoke Urine, is a Circumstance, of which we are not absolutely certain: Nor is there hitherto any Medicine found, which, in Cases of this Nature, is capable of provoking so powerful a Discharge of the Urine, that we have any Reason to hope for an Elimination of the febrile Matter by it, as we observe in Purgings. In the Management of Fevers, therefore, Diuretics are not much to be confided in, with respect to the Evacuations they procure. The Reason of this is sufficiently obvious to any Person, who will only be at the Pains to reflect on the Structure of the Parts; for tho' the renal Arteries are almost as large as those of the Mesentery, and perhaps transmit an equal Quantity of Blood, yet since, in the Kidneys, the Vessels destined for the Secretion of the Humours are much fewer in Number than those of the Intestines, an equally large Evacuation is not, of course, to be expected from the former as from the latter. Besides, we may lay it down as a Maxim, that Diuretics are not, like Emetics and Purgatives, possessed of such a Power and Energy, as always to answer the Intention of the Physician. Tho' I cannot deny, that they sometimes provoke a copious and liberal Discharge of Urine, yet it is certain from Experience, that they often fall short of answering this Intention, as we too frequently observe in Anasarca, and Cases where the Urine is discharged with Difficulty; which are the Disorders, in which the Relief proposed by Diuretics is principally wanted: So that, at present, that Part of Medicine, which relates to the Discharge of the Urine, is, of all others, the most uncertain and imperfect.

It is a Custom of long standing to exhibit very frequent and liberal Draughts of diluting Liquors to Patients seized with the Small-pox or Fevers. This Piece of Practice is not, as some imagine, of a modern Date, but handed down to us from *Hippocrates*, who, that he might, with the greater Accuracy, prescribe the Regimen proper in acute Disorders, has described various Kinds of Sorbitions, and more especially the Ptisan; so that those who first introduced what we call the temperate and diluting Regimen, borrowed almost the Whole of their Practice, in that respect, from *Hippocrates's* Treatise *de Ratione Vietus in Acutis*: And certainly this Method is not only highly rational in itself, but also productive of the best and most happy Effects, since, by these diluting Draughts, the febrile Heat is abated, and the Mass of Blood so attenuated and divided, as to pass freely thro' the Vessels; by which means the superfluous and peccant Matter is more effectually carried off, either by the Emunctories of the Skin, or the urinary Passages. Nor are these diluting Draughts to be classed among the Evacuants, because they provoke Urine, since they produce this Effect not so much by any inherent diuretic Quality, as because they are highly diluting, and used in large Quantities. Thus, tho' a copious Discharge of Urine be promoted, it may happen, that the Vessels may not be emptied, but continue to have the same Quantity of Humours still circulating in them. Let us, therefore, be content to ascribe only a diluting Quality to these Draughts, without running counter to Nature, by placing them among the Evacuants. *Freind. Comment. in Hippocrat.*

DIUTURNUS. Chronical, when applied to Diseases.

DIVULSIO Urine is an irregular Separation of the Urine, when the Sediment is divided, ragged, and uneven.

DIURNUS. Diseases, especially Fevers, whose Exacerbations are in the Day-time, have sometimes this Epithet applied to them.

DIWIPAHURU. A sort of *Convulvulus*, which grows in the Island of *Zeilon*, mentioned by *Breynius*.

DIYDROS, *διυδρως*. Very moist. *Hippocrates*.

DIYGROS, *διυγρως*. The same as *DIYDROS*.

DIYLYSMOS, *διυλισμος*, from *διυλιζω*, to strain. The Percolation or Straining a Liquor, in order to its Depuration.

DOCHME, *δοχμή*. A Measure, among the *Greeks*, of Length. A Palm, the Breadth of four Fingers.

DOCIMASTICE. The Art of examining Fossils, in order to discover what Metals or Minerals they contain.

DOCTILETUS, in *Paracelsus*, is a certain Medicine, which, he says, cures a Cancer; but he does not explain what it is.

DODARTIA. A Plant so called by Dr. *Tournefort*, from Monsieur *Dodart*, a Member of the Academy of Sciences at *Paris*. We have no *English* Name for this Plant.

The Characters are,

The Calyx is monopetalous, tubulous, and divided into five long Segments. The Flower is monopetalous, bilabiated, with a small, horned, bifid Galea, and a long, trifid, trifidated Beard. It is tubulous in the lower Part, which is furnished on the Inside with four Stamina, having each two Testes. The Flowers grow always solitary, and not in Whorles. In the very Bottom of the Calyx is situated the Placenta, on which,

within the Flower, grows a spherical Ovary; from the Centre of whose Apex proceeds a long Tube or Pointal, which, increasing in Bulk at the Apex, becomes a globous, bicapfular, bivalve Fruit, divided by a Partition into two Cells full of small Seeds.

Boerhaave mentions but one Species of this Plant, which is

Dodartia; *Orientalis*; flore purpurascens. *T. C.* 47. *Voy.* 2. 350. **EASTERN DODARTIA, WITH A PURPLISH FLOWER.** *Boerb. Ind. alt. Plant. Vol. 1.*

To this *Miller* adds another, which is,

Dodartia, bellidis folio, flore albo spicato. **DODARTIA WITH A DAISY-LEAF, AND WHITE FLOWERS GROWING IN A SPIKE.**

I find no medicinal Virtues attributed to either of them.

DODECADACTYLON, *δωδεκαδάκτυλον*. A Name for the *Duodenum*, because said to be twelve Fingers Breadth in Length.

DODECAPHARMACUM. A Composition, in which there are twelve Ingredients; for this Reason the *Unguentum Apostolorum* is called by this Name.

DODECATHION, *δωδεκάθειον*. The Name of an Antidote consisting of twelve Simples, and describ'd by *P. Æginet. Lib. 7. Cap. 11.*

DODRA. A kind of Potion among the Antients, made of nine Ingredients. *Castellus*.

DODRANS, *σπιθών*, is the Name both of a Weight and a Measure, signifying three Fourths of an Integer. Thus *Dodrans* is the Weight of three Quarters, or nine Ounces, of the *Libra*; and also three Quarters, or nine Inches, of the *Foot*.

DOEDYX, *δοιδυξ*. The same as *COCHLEARE*, which see. It signifies also a Pestle. *Goræus*.

DOGA. An *Arabic* Term for *PARONYCHIA*, which see.

DOGMA, *δόγμα*, from *δοκέω*, to be of Opinion, in Medicine, is a Sentiment founded upon Reason and Experience, which are the professed Rule and Principles of the Dogmatists, or Dogmatic Sect, in Medicine, as distinguish'd from the Methodics and Empirics. See a full Account of these Sects in the Preface.

DOGMATICI. The Physicians of the Dogmatic or Rational Sect. See the Preface.

DOLET. Red Vitriol. *Rulandus*.

DOLICHOLITHOS, *δολιχολιθός*, from *δολιχός*, a Kidney-bean. A Name given by *Valschius* to certain blackish Stones brought from *Tyrol*, of the Shape of a Kidney-bean, and emitting odorous Effluvia upon Attrition. *Castellus* from *Ephem. Natur. curios. Ann. 1. Obs. 157.*

DOLICHOS, *δολιχός*, imports long or prolix. But *δολιχος* is a Pod, or a Kidney-bean; or a Course or Race of twelve Stadia, or, according to *Suidas*, of twenty-four.

DOLOR. Pain.

Pregnoscics from PAIN in acute Diseases.

Galen, in his first Book of Elements, has defin'd *Pain*, in Opposition to Pleasure, a disagreeable and troublesome Sensation. Of Pain there are various Kinds: One is attended with Pulsation; another with a Sense of incumbent Weight; another with a Tension. There is a Pain which attends Erosion, Incision, Punction, and Perforation, comprehended, with these and the like Differences, under the Name of *Acute*. And, lastly, there is a Pain attended with a Torpor or Numbness.

The first Kind of Pain is called by Physicians *pulsative*, which, according to *Galen, de Loc. affect. Lib. 2. Cap. 3.* always succeeds some remarkable Inflammation in the Arteries, and the containing Parts, which, oppressing and straitening them upon every Diastole or Elevation, if the Part affected be naturally sensible, causes a dolorific Percussion. Sometimes a Pain with a Pulsation is observ'd in Abscesses hastening to Suppuration.

A second Kind of Pain is call'd *gravative*, because it is attended with a Sense, as it were, of a Weight incumbent on the Place affected, which is some carnosus Part; as the Kidneys or Liver suffer under an Inflammation, according to the Observation of *Galen* on 6 *Aph.* 5. That such a Pain is proper to the Kidneys, we are told by *Hippocrates*, 6 *Epid. Sect. 1. T. 5.* And *Galen, de Locis affect. Lib. 2. Cap. 4.* observes those gravative Pains to be incident to the Kidneys, Liver, Spleen, Skin, Glands, and Lungs; for these Parts, he says, are molested with this kind of Pain from a Distention, because the Membrane, in which these Viscera are involved, being oppressed and distended, labours under a Pain attended with a Sense of Gravity.

A *tensive* Pain, which *Archigenes* called *distending*, is excited by a Distention or Convulsion of the nervous, muscular, or membranous Parts, from some Humour, stultent Spirit, or Inflammation.

A fourth Kind of Pain, which is called *acute*, comprehends Sensations arising from Erosion, Punction, Perforation, and the like. Substances excessively salt or acrimonious, by a violent Absterion or Abrasion, excite an acute Pain; as under the Dyenterry, and other Disorders, in which some of the Parts are corroded. Pungent Pains are proper to the Membranes affected with

with acrimonious Bile; as is the Case in Pleurifies, where the Membrane called the *Pleura* is inflam'd with Bile. Much of the same Nature seem to be those Pains, which are excited by a Humour inciding or perforating the Parts of the Intestines.

Lastly, there are Pains attending or producing a Torpor or Numbness, which, by their Violence, cause a Resolution of the natural Heat of the Part affected, or proceed from an Inflammation strongly compressing the Nerves and Arteries, so that little or no Heat can thence be communicated; as, for Instance, in the Pain of the Kidneys, excited by an Inflammation, the Legs are often seized with a Numbness.

Besides the before-mentioned, there are other Distinctions of Pain: Thus some Pains are fixed; others moveable and wandering, as it often happens in a Redundance of Humours; some Pains are continual, and others intermittent; some intense, others remiss; some again afflict the Patient in the Beginning of a Disease, others afterwards; and sometimes they arise on the critical Day, sometimes not; and, to mention no more, some Pains are seated in the external Parts, others in the internal; some in the noble, others in the ignoble Parts. These Distinctions of Pains are of great Moment in prognosticating the Events of Diseases, in the Opinion of *Galen*, *Com. in 6 Aph.* 5. All Pain proceeds from some Injury done to the Part affected; this is too clear to require a Demonstration. *Galen*, who accurately examined into all the Causes of Pain, tells us, in several Places of his Works, that they proceed from one or other of these two Causes; that is, either from a sudden Alteration of the Part, or a new Temperament suddenly induced, or else from a Solution of Continuity. Others make only one Cause; that is, Solution of Continuity, since neither Heat nor Cold excite Pain without a Solution of Continuity; and all immoderate Qualities, as they assert from *Galen*, effect such a Solution: For *Galen* himself often confesses and teaches, that these Qualities cause a Solution of Continuity, particularly *de Simpl. Med. Fac. Lib. 4. Cap. 2. Com. 3. in Hip. de Pract. and Lib. de Inæqual. Temp. Cap. 6.* We conclude, therefore, that the Cause of Pain is a Solution of the Continuity of Parts, either from an immoderate Temperament suddenly induced, or by Incision, Corrosion, Fracture, or, lastly, by Tension. The internal Parts suffer Pain from the Violence of a Fever, by which the nervous Parts are dried and vellicated; or from an Inflammation, an Erysipelas, some great Obstruction or Abscess in the Viscera, or, lastly, from a Flatus. Now, since Pains owe their Rise to such Causes as before-mentioned, they are justly denominated bad, as well when alone, as when attendant on other Distempers; for all Pain exhausts the Strength, promotes Crudities, and impedes the Concoction of the Humours. The worst Pains are such as are excited in the Viscera, and noble Parts; and of these the most pernicious, on all accounts, are Pains affecting the Viscera in a violent manner, and of a long and constant Duration; by which the natural Heat of the Viscera is destroyed or resolved, and no room left to hope for a happy Event. Pains, which are remiss, moveable, and of short Duration, are accounted not so bad, because not excited by an Injury of the Viscera, but rather of some ignoble Part. Sometimes Pains in acute Diseases, tho' in their own Nature bad, prognosticate Good, and contribute not a little towards prognosticating a Recovery; as, for Instance, such Pains as affect the Patient on a critical Day, in some ignoble Part, as the Legs, Feet, or the like; and are attended with Signs of Concoction. But I proceed to treat of good and bad Pains in acute Diseases, as they furnish us with Grounds and Occasions for predicting the Death or Recovery of the Patient.

PAINS considered as Prognostics of a Recovery.

Pains affect the Patient in the Beginning of a Disease, or afterwards. In the Beginning they are, for the most part, to be accounted as pathognomonic Signs, signifying, that some Part among the Viscera labours under an Inflammation. Thus it is when the Pain begins with a Fever, and a Tumor or Tension of some Part; and these Sorts of Pains are called inflammatory. It is best for the Patient, when these Pains are neither violent nor continual, but, after a short Duration, are either quite removed, or else mitigated, and are, besides, attended with no other pernicious Sign. But it is best of all, and safest, in such a Case, when these Pains cease or remit with Reason, or for some manifest Cause; as it happens when such Cessation or Remission is owing to some beneficent Evacuation excited by Nature, or procured by Art; such as Venesection, spontaneous Bleeding at the Nose, Sweats, Stool, Spitting, or when a subsequent Fever removes the Pain by the Virtue of its Heat, as we learn from *Hippocrates*, *6 Aph.* 40. where he says, "That a Pain excited about the Hypochondria, without an Inflammation, is removed by a supervening Fever." And afterwards, *7 Aph.* 52. "They who are molested with Pains about the Liver, are freed by a Fever succeeding them." Again, speaking of such Pains as are relieved by some Evacuation, he tells us, *1 Prorrh.* 152. "That Pains of the Head and Neck, with a Weakness and Tremblings of the whole Body, are resolved by an Hæmorrhage, or are removed by Time."

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And in *Prognost.* "Pains and Elevations of the Hypochondria, if recent, and without an Inflammation, terminate in Rumbings in those Parts, or are more effectually relieved by discharging the Flatulencies and Excretions by Stool and Urine." To the same Purpose we read, *Coac. Præn.* 67. that "a Pain of the Side in Fevers is mitigated by a plentiful Evacuation of aqueo-bilious Matter by Stool." And, *ibid.* 172. "A Cephalalgia is relieved by a Flux of Pus from the Nose, or a Discharge of thick and inodorous Matter by Spitting. Sometimes the Disorder is removed by an Eruption of Ulcers, or by Sleep, or a Flux of the Belly." Again, *6 Aph.* 10. "A violent Pain of the Head is relieved by a Discharge of Pus, Water, or Blood, through the Nostrils, Mouth, or Ears;" as it happened to *Echecrates* the blind Man, *7 Epid. Text.* 95. of whom it is related, "That he was afflicted with a violent Pain of the Head, especially in the back Part, where it is joined to the Neck, whence it reached to the Top. At length it extended itself to the Left Ear, and affected half the Head. He had a constant Discharge of Mucus, moderately adust, and attended with a small Degree of Heat. His Appetite was gone, and, tho' in the Day-time he was tolerably well, yet his Pain returned at Night. At last, towards Winter, there was an Eruption of Pus through his Ear, when all the Symptoms vanished." On these Considerations, *Hippocrates*, *Prognost.* condemns all Excretions which neither remove nor lessen the Disorder, and particularly such as are of no Use in alleviating the Pain; as, on the contrary, he commends those, by which the Pain is mitigated. We conclude, therefore, that Pains which leave the Patient for some manifest Reason, that is, on account of some proper Evacuations, give us very good Hopes of a Recovery. But Pains which are not removed, but continue for a long time, are often Prognostics of Abscesses; of which we shall only say at present, that they are of good Signification when affecting the ignoble Parts, provided they are not rendered of bad Prefage by other bad Signs.

As for those Pains which arise in the Progress of the Distemper, I judge those, which the Physicians call *critical*, to be the most kindly and favourable, because, partly as a *Sign*, and partly as a *Cause*, they prognosticate a happy Crisis. As a *Sign*, they indicate a Hæmorrhage, Vomiting, or some other Evacuation, agreeable to the Observations of *Hippocrates*, *1 Epid. Sect.* 2. where he says, "In burning and other Fevers, a Pain of the Neck, a Sense of Weight on the Temples, and a Dimness of Sight, attended with a Tenseness of the Hypochondria, but without Pain, indicate an Hæmorrhage from the Nose; but a Heaviness of the whole Head, with a *Cardiognos* and Nausea, precede a Vomiting of bilious and phlegmatic Humours." And, in *Prognost.* "If, without these [bad] Signs, the Pain continues beyond the twentieth Day, and the Fever does not leave the Patient, expect an Hæmorrhage from the Nose, or an Abscess in the inferior Parts; but, if the Pain be recent, you are to expect, in like manner, an Hæmorrhage, or a Suppuration, and especially if the Pain be seated in the Temples or Forehead." Again, *1 Prorrh.* 137. "A Pain of the Neck, and great Redness of the Eyes, indicate an Hæmorrhage." And, *ibid.* 142. "A Fever, with a great Sense of Lassitude, succeeding a Rigor, prognosticates a Flux of the Menstrues; but a Pain of the Neck, in that Case, indicates an Hæmorrhage." Again, *ibid.* 247. "A Tenseness of the Hypochondria, with a Heaviness of the Head, Deafness, and a dim and confused Sight, predict an Hæmorrhage." Also, in *Coac. T.* 142. we are told, that, "in a Fever, Redness of the Face, with a violent Pain of the Head, and Pulsation of the Veins, generally predict an Hæmorrhage."

These are the Pains, which, by indicating a happy Crisis, prognosticate a Recovery; but the most salutary, in every respect, are those, which the Physicians call *critical*, on account of their being the Cause of a good Crisis: Such are the Pains which affect, sometimes for a long while together, the ignoble Parts, which lie remote from the Viscera; and are principally to be regarded, as well as other Signs, when they happen on a critical Day, with manifest Tokens of Concoction; in which Circumstance we may, with Confidence, predict a Recovery, if none of the mortal Signs appear: For Nature, by this Method, has given us a plain Intimation, that the principal Members are delivered from their Burden, by the Expulsion of the noxious Humours to a remote Distance; and the farther they are removed, the sooner is Health to be expected. Such a Proceeding, then, argues great Strength of Nature; and these Pains are often productive of Tumors, which are of the best kind, and such as *Hippocrates* mentions, *Lib. Prognost.* where we read, "That, under a violent and dangerous Peripneumony, Abscesses in the Legs are always of Service;" and these, according to *Galen*, in his Comment on the Place, are best, when they are removed at the greatest Distance downwards, and farthest from the principal Seat of the Disorder. *Hippocrates* also, *Coac. Præn.* 118. informs us, "That long Fevers produce Tubercles, or Pains in the Joints; which, however,

"are not unserviceable." Hence Pains of the Feet, Legs, Knees, Hips, and Groin, being of considerable Duration, are very good, as well as those in the Arms, Hands, and behind the Ears, when critically observed. It often happens, in acute Fevers, that Nature, having discharged itself of Part of the Humours, by expelling them to some of the before-mentioned ignoble Parts, is better enabled to deal with the Remainder, and attempts an Evacuation, by which, in Conjunction with the Pains, which are continually attracting the Humours to the ignoble Part, the Disease is brought to a perfect Crisis. It seldom happens, but that, in a Crisis occasioned by Pain, the Patient suffers a Relapse; because the Matter thus thrown upon the Legs, or some other ignoble Part, by no means carries off the whole morbid Cause; but if with these Pains be joined some copious Evacuations, a perfect Crisis is happily effected.

But if these Pains are to be of any Service in a Fever, they ought to be long and vehement; by which means they will attract a very considerable Quantity of the noxious Humour, and so make a Revulsion of great Part of the Cause of the Disease; as was observed by *Hippocrates*, in the Case of *Heropytus*, 3. *Epid. Sect. 3. Aigr. 9.* "About the sixtieth Day, it is said, the Bleeding at his Nose ceased; but he was seized with a great Pain in his Right Hip, and his Fever increased; and, not long after, he was affected with Pains in all his lower Parts; and such were the Circumstances of his Case, that either his Fever was more intense, attended with a considerable Difficulty of Hearing; or these Disorders were remitted and alleviated, but the inferior Parts about the Hips the more vehemently pained. About the eightieth Day, all the Symptoms were mitigated, though none entirely removed; for his Urine was well coloured, and had a copious Sediment, and his Delirium was abated." And, relating the Case of the Wife of *Epicrates*, 1. *Epid. Sect. 3. Aigr. 5.* he says, that on the tenth Day she was taken with a Pain in her Legs, which, some Days after, was succeeded by a very friendly Sweat, which allayed the Fever. But there is one thing to be regarded in relation to Pains; which is, as we observed before, that Pains seldom induce a true Crisis, of themselves, without the Assistance of some other Evacuation of Humours: For which Reason, a Disease, owing its Crisis to Pain, is subject to return upon the Patient; because Pains are incapable of making a Revulsion of all the morbid Matter from the Viscera, but only a Part; whence it will be necessary for Nature to renew the Combat, in order totally to subdue the Disease. Hence proceed frequent Relapses, according to the Observations of *Hippocrates* on the Wife of *Epicrates*, before-mentioned, on *Cleonaetides*, 1. *Epid. Sect. 3. Aigr. 6.* and the Virgin of *Abdera*, 3. *Epid. Sect. 3. Aigr. 7.* in describing which last, he says, that "On the twentieth Day she had a Pain in her Feet, her Deafness and Delirium left her, a small Quantity of Blood came from her Nose, she fell into a Sweat, and was freed from her Fever. The twenty-fourth Day the Fever returned, with the Deafness; her Feet were constantly pained, and she grew delirious. On the twenty-seventh she fell into a plentiful Sweat, was free from a Fever, and her Deafness was removed; the Pain of her Feet continued, but, in all other respects, she underwent a perfect Crisis." *Galen, Comm. 1. in 3. Epid. T. 19.* gives it as his Opinion, that, in an acute Disease, a Pain and Tumor in the Left Hypochondrium and Spleen are not unserviceable. Pains excited in the lower Belly, by acrimonious Humours vellicating the Intestines, frequently signify a Crisis by Stools. Pains behind the Ears, of long Continuance, with a sufficient Measure of Strength, predict those critical Tumors called Parotids. No less salutary are those Pains which descend from the superior to the inferior Parts; for it is best for the Patient, when the Disease, in whatever Manner, recedes to a Distance from the principal Parts. Of this Sort of Pains speaks *Hippocrates*, 2. *Epid. Sect. 5.* "A Pain in the Head, he says, descends from thence into the Breast, thence into the Hypochondrium, and thence into the Hip; for all these Parts cannot possibly be pained at the same time." And 1. *Prorrhetic. 114.* "Pains in the inferior Parts are easily supported." The same is exemplified in the Case of *Herophon*, 1. *Epid. Sect. 3. Aigr. 3.* of whom *Hippocrates* observes, that "On the eighth Day he had a Fever, his Spleen, before elevated, subsided, and he understood every thing; he was affected with a Pain first in his Groin, on the same Side with the Spleen, and afterwards in both Legs; he had a tolerable Night, his Urine was of a better Colour, and deposited a small Sediment. The ninth Day he fell into a Sweat, underwent a Crisis, and the Disease intermitted. The fifth Day afterwards, it returned upon him, together with a Tumor of the Spleen; he had an acute Fever, and was deaf as before; and on the third Day after the Relapse, his Spleen subsided, his Deafness was diminished, he had a Pain in his Legs; at Night he fell into a Sweat; and the Disease terminated in a perfect Crisis, on the seventeenth Day." Thus much have we spoken concerning good or salutary Pains; in order to deserve which Denomination, they must first begin on some critical

Day, with Signs of Concoction, and either follow or precede some very beneficial Evacuation, either by Hæmorrhage, Vomiting, Stool, Urine, Sweat, or Spitting: And that they may be justly called good Pains, it is necessary also, that the Patient should immediately, or soon after, find himself either totally cured, or much relieved; and lastly, they must be no small and inconsiderable Pains, but great and afflictive; and not cease after a few Moments, but endure for a considerable Time. In general, all continued Pains of the Extremities, especially of the Feet, are of good Prefage in acute Distempers.

PAINS prognosticating DEATH.

All Pains affecting a noble Part of the Body are bad, whether they are produced together with the Disease, and so are esteemed pathognomonic Signs, or are excited afterwards; for the former, in Conjunction with other pathognomonic or proper Signs, form a Prognostic: Thus a violent and continual Pain of the Head in a Phrensy, with other proper and destructive Signs of a Phrensy, is mortal. Some Pains are generally mortal from the Excellence and Usefulness of the Part which they affect; those, for Instance, which seize the Heart, or cause Strangulations in the Mouth of the Stomach, the Fauces, Head, Ears, Breast, or Bladder. For Pains in these Members are always pernicious; and especially when attendant on a continual Fever, with other bad Symptoms, indicating an Inflammation, which is generally mortal. Of these Pains *Hippocrates*, 4. *Aph. 64.* thus pronounces: "In Fevers, a violent burning Heat about the Stomach, with a *Cardiagmos*, or gnawing Pain at the Mouth of the Stomach, are bad;" and *Aph. 65.* "In acute Fevers, Convulsions, and violent Pains about the Viscera, are bad." In 1. *Prorrhetic. 86.* it is said, that "a Pain of the Fauces, without a Tumor, but attended with an Anxiety and Suffocation, is destructive beyond measure." And *Hippocrates*, in *Prognost.* says, that this Pain, and an Orthopnea without any Appearance of a Tumor in the Fauces, or Neck, bring very speedy Death; for the Pain of the Throat indicates an internal and violent Inflammation, according to *Galen* in his Comment on the Place, which must of necessity be mortal. A constant and violent Pain of the Head, attending a continual and high Fever, is also very much to be dreaded; since it exhausts the Strength, inducing Want of Sleep, and a Delirium; and, at last, mortal Convulsions; agreeable to the Sentiments of *Hippocrates*, *Prognost.* where he says, "that a violent and continual Pain of the Head in a Fever, if there are, besides, other mortal Signs, is a very fatal Prognostic." Of which he gives Instances in *Philistes*, 3. *Epid. Sect. 2. Aigr. 4.* *Polyphantus*, 7. *Epid. T. 120.* and the Maid-servant of *Euclidas*, *ibid. 121.* three phrenetical Patients. Of a Pain in the Ears, he says, *Lib. Prognost.* "that an acute Pain of the Ears, in a continual and high Fever, is dangerous; for it threatens a Delirium and Death." Again, concerning Pains in the Belly, we read in *Coac. Text. 130.* "that a burning Fever, proceeding from a severe Pain in the Belly, is mortal." And, as to those in the Breast, we are told, 1. *Prorrhetic. 70.* "that a Pain settled in the Breast, with a Numbness, is bad; for if they happen to be taken with a Fever, it proves of the burning and mortal Kind." And, of those in the Bladder, *Prognost.* and *Coac. 471.* "A Hardness and Pain in the Bladder are very difficult and destructive on all Accounts, but most fatal when attended with a continual Fever; for the very Pain of the Bladder is sufficient to destroy the Patient." Pains of the noble Parts therefore, if violent, are very dangerous in the Beginning of acute Diseases; and, if attended with other bad Signs, mortal.

As for Pains of the Viscera and noble Parts, which affect not the Patient in the Beginning of acute Distempers, but are felt afterwards in the Progress of the Disease; if severe and constant, they are to be esteemed very pernicious, as shewing some noble Part of the Viscera to be afflicted with an high Inflammation, accessory to the Fever, and not to be subdued but by extraordinary Strength of Nature. Wherefore these Pains are usually succeeded by very formidable Symptoms; such as a Coldness of the extreme Parts, which is the ordinary Consequence of violent Pains, according to *Hippocrates*, 7. *Aph. 26.* where he says, that "Coldness of the extreme Parts, from a violent Pain of the Parts about the Belly, is a bad Symptom." The Consequences of Pains of the Head are Deliriousness, mortal Phrensies, virulent Vomiting, Convulsions, Abscesses, and Suppurations. The Author of the *Prorrhetics*, *Lib. 1. T. 7.* says, "that, in Pains of the Head, æruginous Vomiting, Want of Sleep, and Deafness, signify the Patient to be near to Madness." We find the same in *Coac. Prænot. 169.* In these Cases virulent Vomiting is very mortal, according to the Observation of *Hippocrates*, 1. *Epid. Sect. 2.* "Pains and Heaviness of the Head and Neck, attended with a Fever, or without a Fever, in those afflicted with a Phrensy, terminate in Convulsions, or in æruginous or virulent Vomiting, in which latter Case the Patient sometimes dies suddenly." Again, 1. *Prorrhetic. 115.* we are told, that "a Pain of the Head in a Fever, attended with Costiveness, and a thin aqueous Sweat, indicates

" indicates the Patient to be subject to Convulsions." The same we find, almost Word for Word, in *Coac.* 154. 177. And, *Coac.* 171. it is said, that "acute Pains of the Head, attended with a Torpor, and a Sense of Weight, indicate a Disposition to Convulsions." The same, in effect, is repeated, *ibid.* 174. In 1 *Prorrh.* 104. "Suffocating Pains of the Fauces, without a Tumor, threaten Convulsions; especially if they owe their Original to the Head." And, *ibid.* "A Pain of the Loins, a Cephalalgia, and Cardialgia, with strong Efforts to expectorate, threaten Convulsions." From these and a Multitude of other Places in *Hippocrates*, it appears, that violent Pains of the principal Parts are sometimes succeeded by Convulsions. Abscesses are, also, consequent to such Pains. Thus, 1 *Prorrh.* 168. "In a Pain of the Head, a Coma and Deafness indicate an Abscess behind the Ears." Continual Pains are Signs of a Suppuration, according to *Hippocrates*, 7 *Aph.* 22. "Pains of long Continuance, in the Parts about the Belly, produce a Suppuration." And, in *Prognostic*, we are informed, that long Pains in the Region of the Thorax and Lungs, which can neither be removed by Expectoration, nor Purging, nor Phlebotomy, nor Medicines, nor Diet, indicate a Suppuration; provided, as *Galen* has it in his Comment, there be no mortal concomitant Sign. We have an Instance to this Purpose, 7 *Epid. Text.* 60. in the Son of *Ilecepselis*.

And thus we see what Judgment is to be made, and what Prognostics to be drawn, from Pains molesting the Viscera, or noble Parts; but if these Pains are accompanied or succeeded by some mortal Sign, no less than the Destruction of the Patient is indicated. The same Consequence may be prognosticated from a Variety of Pains affecting the noble Parts, or other severe Symptoms of a different Kind, appearing at the same time; for these, as they are Indications of several dangerous Disorders in Conjunction, so when attendant on Pain, or a Multiplicity of Pains, they portend nothing but the worst of Events; for if Nature finds it difficult to subdue one considerable Distemper, it must certainly sink and give way to the joint Attacks of so many Diseases, unless it be endowed with an extraordinary Measure of Strength. To this Purpose we read, 1 *Prorrh.* 38. "that in those who are afflicted with a Looseness, Lassitude, Pain of the Head, Thirst, Want of Sleep, Obscurity of the Speech, and a Feebleness, there is Reason to fear a high Delirium." And, *ibid.* 95. "A Trembling of the Hands, a Pain of the Head and Neck, with a Dulness of Hearing, and thick and black Urine, are pernicious Signs, and portend black Vomitings." Of different Pains affecting the noble Parts at the same time, he thus expresses his Judgment, *ibid.* 72. "A Pain of the Stomach, with Tension of the Hypochondria, and an Head-ach, are malignant Signs."

We proceed to consider the Pains of the ignoble Parts, which we have before declared to be good, if attended with a Concotion of the Humours, of considerable Duration, and effectual in removing, or, at least, what usually happens, in mitigating the Fever, with its threatening Symptoms, and putting the Patient in a better State. Such Pains begin, as we said, on critical Days, and are not concerned in exasperating any of the Symptoms. But Pains of the ignoble Parts in the Beginning of a Disease, when all Things are crude, by which no Symptoms of the noble Parts are removed or diminished, but rather exasperated and multiplied, and the Sick rendered worse, are of a bad Kind. But Pains arising in the ignoble and remote Parts, such as the Feet, Legs, Knees, Hips, Groins, and the like, are most to be dreaded, when succeeded by a Fever, and other no less severe and dangerous Symptoms, under which the Patient grows worse and worse. On these we read, in *Coac.* "Convulsions in a Fever, attended with Pains of the Hands and Feet, are malignant; as are also violent Pains of the Thigh. A Pain in the Knees is no good Symptom; but a Pain in the Calves of the Legs is malignant, especially when there is a Cloud in the Urine." We have Instances of the Events of these Pains in the Cases of *Crito* and *Phalarus*, who died under them. Of *Crito*, who lived in *Thasus*, it is related, 1 *Epid. Sect.* 3. *Agr.* 9. "That, as he was walking, a Pain seized him in the great Toe; he took his Bed the same Day, being affected with a Shivering and Nausea, and somewhat hotter than ordinary; at Night he was delirious. The next Day, a reddish Tumor, with a Tension, arose over all his Foot, and about his Ankle; he had an Eruption of black Pustules, with an acute Fever; and raved. Great Quantities of a purely bilious Matter came away from him by Stool; and he died the same Day, being the second of his Illness." The Case of *Phalarus*, who was of *Larissa*, 3 *Epid. Sect.* 3. *Agr.* 5. was as follows: "He was taken on a sudden with a Pain in his Right Thigh, which yielded to no Remedies: The first Day an acute burning Fever came on by slow Degrees, and unattended with Pains. The second Day the Pains of his Thigh remitted, but his Fever increased, and he grew restless, and could not sleep; his extreme Parts were cold, and he made Plenty of Water, but

"not of a laudable Kind. The third Day, the Pain in his Thigh ceased, but he became highly delirious, with much Restlessness and Jaundition of the Body. On the fourth Day, about Noon, he died suddenly." In these two Patients the Pains of the Foot and the Thigh were of the worst Kind, because they arose at the first Commencement of the Disorder; which Season is by *Galen*, *Lib. 1. de Crisibus*, Cap. 8. reckoned the worst for all Kinds of Pain; and were succeeded by an acute Fever, Delirium, Anxiety, Want of Sleep, and other dreadful Symptoms, indicating a Redundance of Humours, which affected different Parts, and produced a Variety of Diseases and Symptoms. The same fatal Event had the Disease described 1 *Epid. Sect.* 3. *Agr.* 12. when the Patient, being feverish, went to Supper; and, being taken very ill in the Night, after vomiting up all he had eaten, was seized with an acute Fever: After many severe and threatening Symptoms in the Progress of the Disease, on the tenth Day he was taken with a Pain in his Legs, which was succeeded by an Exacerbation of all the Symptoms; and the next Day he died. Another Instance to this Purpose is the Woman of *Thasus*, 3 *Epid. Sect.* 3. *Agr.* 2. who, being in Child-bed, was on the third Day, for want of her due Purgations, taken ill of a Fever: The twenty-seventh Day, being free from a Fever, she was taken with a violent Pain in her Right Hip, which held her a long time; her Fever returned, her Urine became pale; after which she still grew worse, and died on the eightieth Day.

Pains of the ignoble Parts are no less formidable, and to be suspected when they vanish and become insensible on a sudden, or when they begin in a remote Part, and thence remove towards the Viscera; which indicates a Conflux of Humours to the noble Parts. The Author of the *Prorrh.* *Lib. 1. T.* 170. pronounces "Pains (about the Ears), ceasing without a Crisis, a bad Sign *." *Galen*, in his Comment on the Place, to *ceasing* adds, *on a sudden*; because, he says, the Word *καταμολυνθηα*, there used, imports "a gradual Ceasing, or Solution; but dolorific Affections becoming suddenly insensible, without a manifest Abscess formed in some other Part, indicate a Translation of the bad Juices upon the Viscera." Pains which vanish immediately after their Commencement, or violent Pains diminished, are of very bad Signification, as indicating great Weakness of Nature, which is disabled from expelling all the noxious Matter, or such a Redundance of Humours, as the Part affected is incapable of containing; as *Galen* observes in the Case of *Crito* before-mentioned. To this Purpose, 1 *Prorrh.* 36. we read, "that Pains in the Calves of the Legs [suddenly ceasing without manifest Cause] are succeeded by a Delirium." And, *ibid.* *T.* 37. "If there appears a Cloud in the Urine, after the sudden Cessation of a Pain in the Thigh, it portends a Delirium." Again, *ibid.* 97. "A Pain of the Side, accompanied with bilious Spit, ceasing on a sudden, without manifest Reason, prognosticates Madness." This Event however, as *Galen* observes, does not always, nor for the most part, succeed such a Suppression; yet some other severe Disorder, besides a Delirium, may be excited by the Diversion of the Humour to the Brain. We conclude, therefore, that Pains in the ignoble Parts suddenly ceasing, or becoming quite insensible, are of a very bad Kind. No less are those to be dreaded, which, being first excited in some Part remote from the Viscera, ascend afterwards to the upper Parts: On some Pains of this Kind *Hippocrates*, *Lib. Prognost.* makes the following Remarks: "Pains of the Loins, and the inferior Parts, attendant on a Fever, if they leave those Parts, and ascend to the Diaphragm, become highly pernicious: For which Reason we are to take into Consideration the other Signs; and, if any one of these appears to be bad, the Case of the Patient is desperate; but if, upon the Translation of the Disease to the Diaphragm, no bad Signs can be perceived, there is good Reason to expect an *Empyema*." A Recourse then of the Humour from the inferior and remote Parts, to the superior, is of bad Signification; which is farther confirmed by 1 *Prorrh.* 69. where we are told, "that a Distortion of the Eye, from the Recourse, or Translation, of a Pain, or Disease, from the Loins, is a bad Sign." And, *ibid.* 83. "that a Pain of the Loins recurring to the Mouth of the Stomach, and attended with a Fever, Shiverings, Vomiting of much thin and watry Matter, with a Delirium, and Loss of Voice, terminates in black Vomitings and Death." Again, *ibid.* 100. we read, that "Long and slow Pains of the Loins, which extend themselves about the Hips, and excite a Nausea and Fever, if communicated to the Head in an intense Degree, soon become mortal, and the Patient dies in a kind of Convulsions." And, *Coac.* 70. "that Pains insensibly increasing, if they communicate themselves to the Clavicles, and superior Parts, become fatal." Pains then, in short, which affect remote Parts, and suddenly cease, or are translated to the superior Parts, are very dangerous; and, if attended with some bad Sign, mortal. And, lastly, Pains in any Part of the Body, which are not felt by the Patient, are a very

* *Proffer Alpinus*, after *Galen*, reads this Aphorism without the Words *πρὸς τὴν*, and so makes it a general Prognostic applicable to all Pain.

bad Prognostic; as signifying a Delirium, or an Extinction of the sensitive Faculty. These are the Sentiments of *Hippocrates*, who tells us, 2 *Aph.* 6. that "They who are affected with Pain in any Part of their Body, but are, for the most part, insensible of the same, are not in their right Mind." *Prosper Alpinus de Præfag. Vit. & Mort.*

With respect to Pain; *Aesclepiades* considered Pain as a principal Indication for Bleeding; for he thought Pain was caused by a Retention of the larger Molecules in the Pores or Passages, (see the Preface) which nothing but Bleeding could dislodge. This Rule is excellent, whatever the Reason he gives for it may be; for it would be difficult to lay down a Maxim in Physic either more universal, or of greater Importance. See *VULNUS*.

DOMESTICUS, domestic, in Zoology, imports *tame*; and distinguishes Animals which are nourished at home, from those which are wild.

In Botany, it signifies *cultivated*; and distinguishes Plants which are improved by Culture, from those which grow wild.

In Pharmacy, some Purges are called domestic; which are such as People keep at home, or may prepare themselves, and may take occasionally, without the Advice of a Physician.

DOMINARUM AQUA, the Name of a Water described by *Mynsicht*, which he recommends for facilitating Delivery, and provoking the Menses.

DONAX. See *ARUNDO*.

DORA. A Name for the *Milium Arundinaceum*, *subrotundo Semine*, *Sorgho nominatum*. See *MILIUM*.

DORCADIZON, *Δορκαδίζων*. The same as *CAPRIZANS*, which see.

DOREA. A Person who can see by Day, and not by Night, is thus called by *Rhases*.

DORIA.

The Characters are;

It hath a perennial fibrose Root; the Leaves are almost whole, and oblong; the Cup of the Flower is cylindrical, and in form of a Tube; the Flowers grow upon the Summits of the Branches, and are disposed either in form of an Umbel, or in a loose Panicle, which are radiated like the Ragwort.

Boerhaave mentions fifteen Species of this Plant, which are;

1. *Doria*; *Narbonensium*. *Boerb. Ind. A.* 98. *Herba Doria*, *Offic. Herba Doria Lobelii*, *Ger.* 349. *Emac.* 431. *Raii Hist.* 1. 279. *Herba Doria vulgaris*, *Park. Theat.* 541. *Doria*, *Dill. Cat. Giff.* 164. *Virga aurea major vel Doria*, *C. B.* 268. *Virga aurea major carnosus succulentis foliis ad caulem latis*. *Hist. Oxon.* 3. 123. *Alisma Matthioli sive Doria*, *J. B.* 2. 1064. *Alisma sive Damasonium*, *Doria & Virga aurea Montpellierensium*, *Chab.* 333. *Jacobæa pratensis altissima Limonii folio*, *Elem. Bot.* 387. *Tourn. Inst.* 485. **DORIA'S WOUNDWORT**.

It grows on the Banks of Rivers, and flowers in July and August. The Leaves are used in Medicine. It is an excellent Vulnerary, and agrees in Virtues with Golden-rod. *Dale*.

2. *Doria*; quæ *Jacobæa*; foliis integris & mucronatis. *M. H.* 3. 110. *Jacobæa palustris, altissima; foliis serratis*. *T.* 485. *Virga aurea sive Solidagini angustifoliae affinis, Lingua avis Dalechampi*, *J. B.* 2. 1064. *Lingua major*, *Lugd.* 1037. *Gonyza palustris, serratifolia*, *C. B. P.* 266. **DORIA WITH WHOLE SHARP-POINTED LEAVES**.

Mr. Ray says he has found it in the Fen-ditches in the Isle of Bly; and particularly near *Strettham Ferry*. I have sought for it several times in vain.

Tabernaemontanus has a good Figure of this Plant. The *Hist. Lugd.* has a good Figure of it also, and describes it very well, and compares its Flower, not without Reason, to that of the Ragwort. But the Figure of *Gamerarius* and *Thalius* are good for nothing. *Martyn's Tournefort*.

3. *Doria*; quæ *Jacobæa*; Alpina; foliis longioribus serratis. *Boerb. Ind. A.* 98. *Consolida Saracenica, Solidago*, *Offic. Solidago Saracenica*, *Ger.* 347. *Emac.* 429. *Raii Hist.* 1. 279. *Solidago Saracenica vera, foliis folio*, *Park.* 539. *Virga aurea angustifolia serrata*, *C. B.* 268. *Virga aurea, alias Consolida Saracenica*, *Schrod.* 177. *Virga aurea angustifolia serrata, sive Solidago Saracenica*, *J. B.* 2. 1063. *Hist. Oxon.* 3. 124. *Virga aurea angustifolia serrata, quibusdam etiam Solidago Saracenica dicta*, *Chab.* 333. *Jacobæa Alpina, foliis longioribus serratis*, *Tourn. Inst.* 485. *Elem. Bot.* 387. **SARACENS CONSOUND**.

It flowers in September. The Leaves are in Use, which are long, broad, crenated at the Edges, and of an aromatic and allringent Taste.

It is an excellent Vulnerary, and fit to be used either internally or externally; it also heals Fistulas, and cleanses and heals malignant Ulcers. *Dale* from *Schrader*.

4. *Doria*; quæ *Jacobæa*; Orientalis; Limonii folio. *T. C.* 36. *H. R. D.* **EASTERN DORIA, WITH A SEA-LAVENDER-LEAF**.

5. *Doria*; Americana; lato, rigido folio. *Virga aurea*

Novæ Angliæ, lato, rigidoque folio, *Par. Bat. M. H.* 3. 125. *Virga aurea, ex Nova York, foliis symphyti majoris hirsutis*, *Sc. Bot. Par. t. H.* **AMERICAN DORIA, WITH A BROAD STIFF LEAF**.

6. *Doria*; quæ *Jacobæa*; Africana, frutescens; folio rigido & hirsuto, major. *H. A.* 2. 149. *H. R. D.*

7. *Doria*; Africana; arborecens; crassius & succulentis foliis, atriplicem referentibus. *H. R. D.* **AFRICAN TREE DORIA, WITH THICK SUCCULENT LEAVES, SOMEWHAT LIKE THOSE OF ATRIPLEX**.

8. *Doria*; quæ *Jacobæa*; Africana; frutescens; crassius & succulentis foliis. *H. A.* 2. 147. *H. R. D.* **AFRICAN SHRUBBY DORIA, WITH THICK SUCCULENT LEAVES**.

9. *Doria*; quæ *Jacobæa*; Africana; Hederæ Terrestris folio; repens. *H. A.* 2. 145. *H. R. D.* **AFRICAN CREEPING DORIA, WITH A GROUND-IVY-LEAF**.

10. *Doria*; quæ *Jacobæa*; Africana; frutescens; Coronopi folio. *H. A.* 2. 139. *H. R. D.* **AFRICAN SHRUBBY DORIA, WITH A HARTSHORN-LEAF**.

11. *Doria*; quæ *Jacobæa*; Alpina; foliis rotundis, serratis. *C. B. Pr.* 66. *M. H.* 3. 110. *Jacobæa Alpina, foliis subrotundis, serratis*. *C. B. P.* 141. *T.* 485. *Gonyza Alpina*. *J. B.* 2. 1055.

12. *Doria*; Alpina; foliis subrotundis, pedunculo folioso.

13. *Doria*; quæ *Jacobæa*; Hispanica; folio Rosmarini. *T.* 486. *Jacobæa, folio Grithmi Littorei*. *M. H. Blæf. M. H.* 3. 111. *Jacobæa, lini folio, Hispanica, & Italica*. *Bocc. Mus. p. 2. T.* 49. a.

14. *Doria*; quæ *Jacobæa*; Latifolia, palustris; five aquatica. *Raii Syn.* 82. *Raii H.* 285.

15. *Doria*; quæ *Jacobæa*; lacus Agnani, facie senecionis; odore Fœniculi. a. *Boerhaave's Index alter Plantarum*, vol. 1. p. 98.

DORIS. A Name for the *ECHIU*M, in *Paulus Ægineta*, *L. 7. C. 3.* *Doridis Humor* is Sea-water, in *Serenus Samonicus*.

DORONICUM.

The Characters are,

It hath an intricate knotted Root: The Leaves are produced alternately on the Branches: The Stalks are a little branch'd: The Flowers (which grow on the Tops of the Stalks) are radiated, like the greatest Starwort. The Half-florets, in the Disk of the Flower, are trifid. The Cup of the Flower is expanded, and cut into many Parts, almost to the Bottom; and is not scaly, but each single Segment is in the Form of a Dish.

Boerhaave mentions five Species of this Plant; which are,

1. *Doronicum*; maximum; foliis caulem amplexantibus. *C. B. P.* 185. *M. H.* 3. 127.

2. *Doronicum*; Plantaginis folio; alterum. See *ALISMA*.

3. *Doronicum*; integro & crasso hieracii folio. *Bot. Monsp.* 295. *M. H.* 3. 128. *Jacobæa integro & crasso hieracii folio*. *T.* 486.

4. *Doronicum*; longifolium; hirsutie asperum. *C. B. P.* 184. *M. H.* 3. 127.

5. *Doronicum*; Plantaginis folio; Lusitanicum. *T.* 488.

Boerb. Ind. alt. Plant. Vol. 1.

We are inform'd in the *Historia Plantarum*, publish'd under the Name of *Boerhaave*, that the celebrated *Gesner*, who was a very diligent Searcher into the Virtues of Plants, took some of this Plant in the Morning fasting, and two Hours afterwards wrote a Letter to his Friend, in which he said, That he was then in good Health; but, soon after, it appear'd, by Letters from other Hands, that he was taken ill, and died an Hour after he had finish'd and sent away the before-mention'd Letter to his Friend: Hence *Doronicum* came to be justly reckon'd among poisonous Herbs. It has been disputed, whether *Doronicum* ought to be admitted into the Composition of the *Theriaca*: *Matthioli* was for its Admission, and asserted, that it had no venomous Quality.

Besides the foregoing Species of *Doronicum*, *Dale* mentions the three following; which are,

1. *Doronicum*, *Offic. Doronicum*, *Cod. Med.* 46. *Doronicum Officinatum*, *Rupp. Flor. Jen.* 141. *Doronicum vulgare*, *Park.* 319. *Raii Hist.* 1. 274. *Doronicum majus Officinatum*, *Ger.* 600. *Emac.* 759. *Hist. Oxon.* 3. 127. *Doronicum radice Scorpii*, *C. B.* 184. *Dill. Cat. Giff.* 83. *Tourn. Inst.* 487. *Acnitum Pardalianches*, *Mont. Plant. Var. Ind.* 35. **LEOPARDS-BANE**. *Dale*.

The Roots of this *Doronicum* are, by some, fancied to be like Scorpions in Shape, being thick towards the Head, and narrower towards the End, with several Fibres growing on each Side. The lower Leaves are set on long Foot-stalks, and are in Shape like Violet-leaves, of a pale-green Colour, hairy and soft in handling. The Stalk grows to be a Foot or more high, striated, and somewhat hairy, having the like Leaves, set on without Foot-stalks. It is divided into two or three Branches, each of which has on its Top one pretty large yellow Flower, like a Chrysanthemum, or Marigold; but having narrower Petals, which

which passes away into Down, including small, long, black Seed. It grows in many Places upon the Alps, flowering in May.

The Root only is used, and that but seldom; some commending it against the Poison of Scorpions; others reckoning it a Poison itself, affirming, it will destroy Wolves, Dogs, and other Animals. They who have a mind to see the Arguments on both Sides, may consult *Lobel* and *Matthiæus*. *Miller's Bot. Off.*

2. *Doronicum minus*, Offic. Ger. 600. Park. 319. Raii Hist. 1. 277. *Doronicum minus Officinatum*, Ger. Emac. 759. Hist. Oxon. 3. 127. *Doronicum Plantaginis folio*, C. B. 184. Tourn. Inst. 487. *Doronicum folio ferè Plantaginis oblongo*, J. B. 3. 18. Chab 339. LESSER LEOPARDS-BANE.

Its Roots, especially those which are old, are Tubercles of about an Inch in Length, and about seven or eight Lines broad, vaulted on the Back, raised with some semicircular Ridges, like little Scales; their Tubercles may be compared for Shape to a Scorpion; for they are accompanied at each Rib with two or three Pair of rugged, and, as it were, scaly Pairs of Fibres, two or three Lines thick, ending in a Point, pretty like the Claws of a Scorpion: The Tail is represented by a long Fibre, which, however, is not crooked, but creeps, and serves to multiply the Plant. The Part opposite to the Tail prolongs itself after the manner of a scaly Neck, which sustains a little Root, much like the first. Below these Roots grow Fibres, more or less small, three or four Inches long, not very capillary: These Roots are fleshy, of a dirty white Colour, sweet at first like Liquorice, but afterwards leaving a little Bitterness. The Leaves usually proceed from the young Tubercles; their Pedicle is white, three or four Lines broad, hairy, then contracted to two Lines, furrow'd, pale-green, rounded and angular at the Back. These Leaves are like those of the common Plantain, veined in like manner, insipid, mix'd with a little Acrimony, four Inches long, and three broad, soft, pale-green, scatter'd with very short Hairs, and having the Edges waved, and lightly notched. The Stalks are about two Foot high, two or three Lines thick, chanelled, hollow, hairy, accompanied with some alternate Leaves, pretty distant one from another. These Leaves encompass them with two Wings, like Ears; whereas the under ones have no Ears at all. The Leaves of the Stalks are usually cut like a Heart on each Side; the last are very narrow, and pointed. Each Stalk sustains a yellow Flower, two Inches in Diameter: The Disk is convex, eight or nine Lines broad, composed of several Florets, three Lines high, fistular, cut like a Star, with five Points: They send from their Bottom a forked Thread; the Horns of which are crooked, and appear out of a chanelled Sheath: The Ray of this Flower consists of Semiflorets, about nine Lines long, and a Line and half broad, blunt and notched at the End. From their Base also, which is fistular, arises a little forked Thread: Each of the Florets and Semiflorets sits upon a greenish Embryon, which afterwards becomes a chanelled blackish Seed, one Line long, adorned with a whitish Down, two Lines and a half long. *Martyn's Tournefort*.

3. *Doronicum radice dulci*, C. B. Pin. 184. Chom. 313. Raii Hist. 1. 275. Tourn. Inst. 487. *Doronicum folio subrotundo serrato*, J. B. 3. 17. Hist. Oxon. 3. 127. *Doronicum Brachiatæ radice*, Park. Theat. 320. *Doronicum radice repente*, Ger. 621. Emac. 760. CREEPING LEOPARDS-BANE.

The Hunters and Shepherds who live on the Mountains, and call this Plant by the Name of the *wild Goat's-root*, account it, together with the largest Sort of *Doronicum*, as effectual a Remedy against the Vertigo, as the *Auricula Uræ*, with a yellow Flower; and affirm it to be of extraordinary Use for confirming their Strength. *Raii Hist. Plant.*

DORPESTOS, *δορπῆστος*, or *δορπῆστος*, Supper, or the Time of Supper.

DORPOS, *δόρπος*. The same as DORPESTOS.

DORSALIS TABES. A Species of Atrophy. See TAGES.

DORSIFEROUS PLANTS, of *Dorsum*, the Back, and *fero*, to bear; such Plants as are of the capillary Kind, without Stalks, and which bear their Seeds on the Backside of their Leaves.

DORSTINEA. The Name of the Plant of which the *Contrayerva* is the Root.

It was so named by Father *Plumier*, from Dr. *Dorsten*, a German Physician, who published a History of Plants in Folio.

The Characters are,

It hath a thick fleshy Placenta, which is flat, and situated vertically; upon which are placed many apetalous Flowers, which are succeeded by roundish Seeds, somewhat like those of Gromwell.

The Species are,

1. *Dorstinea dentariæ radice, Sphondylii folio, Placenta Ovali*, Houst. CONTRAYERVA WITH A TOOTHWORT-ROOT, COW-PARSNIP-LEAF, AND AN OVAL PLACENTA. This is the Plant already mentioned under the Name of *Contrayerva Radix* of *J. Bauhinæ*.

V O L. II.

2. *Dorstinea dentariæ radice, folio minus laciniato, Placenta quadrangulæ & undulata*, Houst. CONTRAYERVA WITH A TOOTHWORT-ROOT, LESS JAGGED LEAF, AND A QUADRANGULAR UNDULATED PLACENTA.

3. *Dorstinea Sphondylii folio serrato, Placenta quadrangulæ; radice dentariæ*. CONTRAYERVA WITH A TOOTHWORT-ROOT, SAWED COW-PARSNIP-LEAF, AND A QUADRANGULAR PLACENTA. This is the Plant already mentioned under the Name of *Contrayerva Officinatum*.

The first of these Plants was discovered by the late ingenious Dr. *William Houstoun*, near *Old Vera Cruz*, in *New Spain*. The second was found by the same Gentleman, on the rocky Ground about *Campechy*. The third Sort was found in great Plenty in the Island of *Tobago*, by Mr. *Robert Millar*, Surgeon. But the Roots of all these Species are indifferently brought over, and used in Medicine, and for Dying.

These Plants are at present very rare in *Europe*; nor was it known what the Plant was whose Roots were imported, and had been long used in Medicine in *England*, until the late Dr. *Houstoun* informed us; for although Father *Plumier* had discovered one Species of this Plant, and given the Name of *Dorstinea* to the Genus, yet he seems not to take notice, that the *Contrayerva* was the Root of that Plant. *Miller's Dictionary, Vol. 2.*

DORSUM. The Back.

What we commonly call a Gibbosity, is a preternatural Incurvation of the Spine of a Back, either to the posterior, or lateral Parts. This Misfortune is more incident to Infants, than to Adults; and more frequently draws its Origin from external, than from internal Causes; for it is scarce possible, but the soft and tender Bones of Infants must be violently hurt and distorted by Falls, and severe Blows, and by wearing too tight Stays, and other Garments. This Disorder may also arise from internal Causes; when, for Instance, those Ligaments which sustain the Back, are become too lax and flaccid; or when the Vertebrae themselves are become carious; though *Gouey*, in his Surgery, furnishes us with a memorable Example of the Possibility of a signal Distortion and Incurvation of the Back, in consequence of a preternatural Contraction of the Muscles of the Abdomen. And, certainly, unless this Species of Disorder be speedily relieved, the small distorted Bones of the Back are gradually indurated, and assume a Figure and Attitude so much deform'd, that 'tis impossible ever after to restore them to their natural Situation; so that 'tis not to be wonder'd at, if inveterate Gibbosities are generally entirely incurable: But, when proper Measures are seasonably and speedily taken, this Disorder sometimes admits of a Cure, or, at least, becomes more mild and tolerable.

In Cases of this Nature, the most effectual Relief is obtain'd from Stays, made either of Plates of Iron, thick Paper, or Whale-bone, and arm'd with proper Trusses, especially in the Part where the Gibbosity appears. This ought to be worn by Infants both Day and Night, till there remains no Danger of the Disorder becoming worse, and more terrible. Surgeons have also invented an Instrument on purpose for this Disorder, resembling the Figure of a particular Species of Cross, and represented by *Fig. 5. in Tab. 45.* The Part *AA* being applied to the Back, *BB* to the Neck, *CC* and *DD* to the Shoulders, and *EE* being tightly tied about the Belly, the Spine of the Back is by this means kept straight, and defended against farther Injury. By these Measures Children are either gradually restored to their former Shape, or, at least, preserv'd from greater Degrees of Calamity and Deformity. It is also highly expedient, in Cases of this Nature, carefully to anoint the Part with *Hungary Water*, Spirit of Lavender, the *Spiritus Matricalis*, describ'd in the *Leyden Dispensatory*, or some other corroborating Spirit. It is also to be carefully cover'd with some corroborating Plaster, such as *Oxyroceum*, *Opododoc*, the *Emplastrum Nervinum* of *Vigo*, or others of a like Nature; not neglecting, in the mean time, proper internal Medicines, accommodated partly to strengthen the weak and infirm Members, and partly to evacuate the superfluous and peccant Humours. These Measures, unless the Disorder is inveterate, are generally of singular Service in restoring Incurvations and Distortions of the Back. *Heister. Institut. Chirurg.*

DORYCNium.

The Characters are,

The Leaf is divided into five Segments, quite to the Pedicle, so as to appear like five Leaves; the Pod is short, and contains only one Seed, like the *Barba Jovis*.

Boerhaave mentions but one Species of this Plant; which is, *Dorycnium Monspeliensum*, *Lob. Ic. 51. Dorycnium Monspelianum, fruticosum*, J. B. 1. 388. *Lotus Polyceratos, frutescens, incana, siliculis subrotundis, erectis*, M. H. 2. 178. *Trifolium, album, angustifolium, floribus velut in capitulum congestis*, C. B. P. 329. H. R. D. SHRUB TREFOIL OF MONTPELIER. *Bærb. Ind. alt. Plant. Vol. 2.*

It grows in rocky Places near *Montpelier*. Ray.

DORYCNium IMPERATI. A Name for the *Convulvulus*, major, rectus; *Creticus*; *argenteus*; which see.

DOSIS, δῶσις, from δίδωμι, to give. A Dose. The Quantity of a Medicine exhibited at one time.

DOSITHEI PASTILLUS. The Name of a Pastil in *Aetius*, *Tetrabib.* 3. *Serm.* 1. C. 63. and in *Nicolaus Myrepsus*, *Secl.* 41. C. 78.

DOTHIE, δόθιν. A Boyl, a kind of inflammatory Tumor. The same as *FURUNCULUS*.

DOUGLASSIA. This Plant was so named by the late Dr. *William Houstoun*, in Honour of Dr. *James Douglas*.

The Characters are,

It hath an anomalous Flower, consisting of one Leaf, whose lower Part is tubulous; but the upper Part is expanded, and divided into five Segments. The Fruit, which is roundish, is divided into two Parts, which contain two Seeds.

There is but one Sort of this Plant at present known, which is,

Douglassia frutescens & spinosa, Ligustri folio, flore albo. Houst. *Paliura affinis ligustrifolia spinosa, flore monopetalo difformi, fructu sicco subrotundo.* Sloan. Cat. Jam. SHRUBBY

PRICKLY DOUGLASSIA, WITH A PRIVET-LEAF, AND A WHITE FLOWER. *Miller's Dictionary*, Vol. 2.

DRABA. A Name for the *Thlaspi*. *Lepidium*. *Leucoium*, and several sorts of *Hesperis*.

DRACATium, Lead. *Rulandus*.

DRACHMA.

The *Greeks* made use of *Drachmæ* in reckoning Sums, either in their own or *Roman* Affairs; as the *Romans* did of *Nummi Sestertii*, of which there are many Examples in all Authors, especially in *Plutarch*.

A *Drachm* is the hundredth Part of a *Mina*.

Δραχμή, quasi δερχμή, is a Thing taken or apprehended by the Hand, from δέχομαι or, as you would say, a Handful of six *Oboli*, which are equal in Value to it.

It is a Weight, as well as a Coin. The *Attic Drachm* is commonly reputed equal in Value to the *Denarius*; and, as amongst the *Romans* the *Denarius*, so amongst the *Greeks* the *Drachma*, was coin'd both of Silver and Gold: But, in reckoning Sums, where it is not otherwise specified, the Silver Coin is understood.

The learned Bishop *Hooper* makes the Value of the *Attic Drachma* different in different Ages; and the highest, according to the Weight of the Standard *Mina* of *Solon* 68,4 Grains; but he owns, that it fell afterwards to about the Value of 62,57. And upon this *Drachma*, and the Equality of it to the *Roman Denarius*, almost all the Computations in classical Authors are founded; which we did not think worth the while to change or diversify in a few Instances, that may be in earlier Times. But if this Supposition be true, and the Reader of antient Authors is resolved to be nice, the Value of the several *Drachmas*, according to the Bishop's Supposition, from 70 Grains downwards, is as follows:

Weight.	Value.
gr.	d. q.
70	8 3
68,4	8 2½
65,5	8 0½
62,57	7 3½

The *Drachma* was divided into 18 κεῖντια, or *Siliquæ*, as well as into 6 *Oboli*. There were different *Drachms* in different Countries.

The *Drachma Æginæa* is commonly reckon'd to be equal to 1½ of an *Attic Drachm*, or 10 *Attic Oboli*. The *Athenians* call it παχύς, or thick. It was the Pay of a Horseman even amongst the *Athenians*. There is frequent Mention of it in *Hippocrates*.

There is mention likewise made of the *Corinthian Drachm*; but its Value is uncertain: It is supposed by some Authors equal to the *Attic*.

The *Egyptian Drachm*, according to *Cleopatra*, was equal to an *Obolus*, or sixth Part of the *Attic Drachm*.

There were coin'd likewise the Parts and Multiples of a *Drachma*, the *Semidrachma*, *Didrachmum*, *Tridrachmum*, and *Tetradrachmum*, which was call'd the Γλαύξ, or Owl; likewise *Pentadrachmum*, and *Hexadrachmum*. In some Authors you find the Word *Pentecontadrachmum*, or 50 *Drachms*; which, if it were a silver Coin, must have been very large.

When the Word ἀγνεία is joined with a Number, it is to be understood of *Drachms*.

A *Drachma* was ¼ of the Ounce, and 1⁄18 Part of a *Mina*; though, perhaps, this Way of Reckoning by Ounces and *Drachms* was borrowed by the *Greeks* from the *Romans*; for the old Division of the *Drachma* was into 6 *Oboli*. *Suidas* δρχμα ἓξ ὀβολῶν. The *Didrachmum*, *Hemidrachmum*, &c.

express'd Weights, as well as Coins. The *Greeks* used the Expression τεῖτον ἡμίδρχμον, to signify 2½ *Drachms*, as well as τεῖτον ἑμιτάλαντον.

Hippocrates divided the *Drachma* (which I will suppose to be the *Attic*, except where he mentions another) into 6 *Oboli*, according to the usual manner of reckoning in *Greece*; and, no doubt, in Imitation of him, *Celsus* divides the *Denarius*, which was always supposed equal to the *Drachma*, into six Parts.

The learned and accurate Dr. *Hooper*, Bishop of *Bath* and *Wells*, has observed, that the Physicians made their Prescriptions by *Drachmas*; not according to the Standard-weight, but by the current Coin of their Time. He supposes, indeed, the *Denarius* to have been equal to 64 Grains: According to my Computation, it is only 62 ½; Perhaps, he is in the Right. There is some small Difference between us in the *English* Weights; for he assumes a different Proportion of the *English* *Averdupois* Pound to the *Troy* Pound. It is allowed, that the *Roman* Ounce is equal to the *Averdupois* Ounce; and, consequently, the *Roman* Pound, consisting of 12 Ounces, and the *Averdupois* of 16, the *Roman* Pound must be, according to both Reckonings, ⅔ of the *Averdupois* Pound: But he makes the Proportion of the *Averdupois* Pound to the *Troy* Pound, 175 to 144; perhaps a more accurate Proportion than mine. According to Dr. *Wibert*, whom Sir *Jonas Moor* quotes as very accurate, it is only as 17 to 14; and, consequently, the *Averdupois*, or *Roman* Ounce, to the *Troy* Ounce, is as 51 to 56. According to the Bishop, there are in the *Roman* Ounce 437,5 *Troy* Grains.

The *Paris* Pound consists of 16 Ounces, of which the Ounce is equal to 472,5 *English* *Troy* Grains. The Physicians reckon to their Pound 12 of those Ounces: Consequently, their medical Pound is equal to 5670 *Troy* Grains, and less than ours by 90 Grains; and their Ounce less by 7½; and their *Drachm*, which is the eighth Part of their Ounce, is less than ours by ⅓ of a Grain. But they reckoning 576 Grains in their Ounce, makes still a greater Difference in the Quantity of the Grain; for 105 of our Grains make 128 of theirs. *Arbuthnot on Weights and Measures*.

DRACHUM is an obscure Term in *Paracelsus*, *Philosoph.* Lib. 4. *Tracl.* 1. *Cap.* 3. in *Fin.* It seems to import the ultimate Dissolution of the Element of Water, or its Consumption. *Castellus*.

DRACO.

The Characters are,

The Leaves, which are like those of *Hyssop*, are produced alternately on the Branches, the lower being divided, and the upper ones whole: The Flowers are small, discous, and disposed in a long Spike.

Boerhaave mentions but one Species of this Plant; which is,

Draco Herba, Ger. 193. *Emac.* 249. *Hist. Oxon.* 3. 33. *Boerb. Ind. A.* 127. *Raii Hist.* 1. 373. *Dracunculus*, Offic. *Dracunculus hortensis*, C. B. 98. *Dracunculus hortensis sive Tarchon*, J. B. 3. 184. *Chab.* 168. *Draco Herba, sive Tarchon*, & *Dracunculus hortensis*, Park. *Parad.* 500. *Abrotanum Lini folio acriori & odorato*, Tourn. *Inst.* 459. *Abrotanum mas Lini folio acriori & odorato*, Elem. Bot. 364. **TARRAGON.**

Tarragon shoots up a great many round Stalks, full of Branches, clothed with long narrow Leaves, like those of *Hyssop*, but sharper pointed, smooth, and shining. On the Top of the Stalks grow the Flowers, small and greenish, resembling those of *Southern-wood*, but fewer in Number, and thinner set, and upon longer Foot-stalks. The Leaves have a pretty strong Smell and Taste, somewhat like *Fennel*: It is planted in Gardens, flowering in *July* and *August*.

The Leaves, which are chiefly used, are heating and drying, and good for those who have cold Stomachs; and to that End are frequently put into *Sallads*: It expels Wind, provokes Urine, and the Menfes, but is not often used in Medicines. *Miller's Bot. Off.*

As this Plant is endu'd with an extraordinary Acrimony, we cannot doubt but that it powerfully heats, dries, cuts, opens, and digests. *Tarragon*, therefore, as *Matthioli* writes, must be good for a cold Stomach: It excites an Appetite, dissipates Flatulences, strengthens the Limbs, provokes Urine and the Menfes, and opens Obstructions. Being chewed, it draws forth Phlegm and Spittle, like *Pyrethrum*; whence it eases the Tooth-ach, and purges a humid Brain. The distil'd Water, according to *Label*, is in principal Esteem among the *English* against the Contagion of the Pestilence, provokes Sweat, and concocts Phlegm. If we well consider the Acrimony of this Herb, which is extremely vellicating to the Tongue, we cannot deny it a Place among the most potent heating Medicines. *J. B. Ray, Hist. Plant.* 373.

Draco marinus Offic. *Bellon. de Aquat.* 215. *Draco*, *Jonf. de Pisc.* 60. *Charlt. de Pisc.* 27. *Aldrov. de Pisc.* 255. *Rondel. de Pisc.* 1. 300. *Draco*, *Gesn. de Aquat.* 77. *Salv. de Aquat.* 72. *Raii Ichth.* 288. *Ejusd. Synop. Pisc.* 91. **THE WEAVER.**

This Fish is taken in the Ocean, and also in the *Mediterranean* Sea. The Parts used, are the Head, newly burnt to Ashes, and the Bones. *Rondeletius* affirms, that the Ashes of the Head, newly burnt, are good against all Poisons; and *Pliny* writes, that the Tooth-ach is eased by scarifying the Gums with the Bones of the Fish.

Draco, sylvestris. A Name for the *Ptarmica*; *vulgaris*; *folio longo, serrato*; *flore alba*.

DRACOCEPHALO-AFFINIS. A Name for the *Moldavica*; *Americana*; *trifolia*; *odore gravi*.

DRACOCEPHALON.

The Characters are;

The Calyx is long and tubulous, and the Leaves narrower than those of the Peach-tree: The Galea is hollow, entire, opening and shutting; the Beard divided into three Segments, which are bifid, in the manner of Jaws, so that the Flower represents the open Jaws of a Dragon, or rather, the Flower of Fox-glove. The Flowers grow in thin Whorles, two or three in a Whorle, at the Joints of the Stalks.

Boerhaave mentions but one Species of this Plant, which is the

Dracocephalon; *Americanum*. *Breyn. Prodr.* 1. 34. *Dracocephalus, angustifolius, folio glabro, serrato*. M. H. 3. 417. *Pseudodigitalis, foliis dentatis Persicæ*. Bocc. Rar. 11. *Digitalis, Indica, angustifolia, profunde serrata, Persicæ folio*. H. R. Par. *Digitalis, Americana, purpurea, folio serrato*. A. R. Par. 79. H. AMERICAN DRAGON'S HEAD.

Boerh. Ind. alt. Plant. Vol. 1. p. 176.

DRACONIS SANGUIS, Dragon's Blood. This is the Gum of of the

Draco Arbor, *Ger.* 1339. *Emac.* 1523. *Park. Theat.* 1531. *J. B.* 1. 402. *Chab.* 30. *C. B. Pin.* 505. *Raii Hist.* 2. 1598. *Jonst. Dendr.* 288. *Ezquahduilt*, *Hern.* 59. *Palma Prunifera foliis Yuccæ, fructu in racemis congestis, cerasiformi, duro, cinereo, pisi magnitudine*; *hujus Lacryma Sanguis Draconis dista*, *J. Comm. Hort. Amst.* 261. *Cat. Jam.* 179. *Sloan. Hist.* 1. 20. *Pluk. Almag.* 277. *Hort. Beaum.* 33. *Palma foliis longissimis, pendulis absque ullo pedunculo ex caudice glabro enatis*, *Boerh. Ind. A.* 2. 169. THE DRAGON-TREE.

This Tree grows in the Island of *Porto Santo*, which is one of the *Canaries*, and in *Madera*. Dragon's Blood is an obscure, red Resin, easily melted by the Fire, and kindling into Flames when cast into it: When rubbed, it appears of a red sanguine Colour: It has a resinous and astringent Taste. There are two Kinds to be met with in the Shops, which differ only in being more or less pure: The most esteemed is what is imported in Drops, wrapt up in Leaves.

It is a potent Drier, Astringent, and Repellent: Its principal Use is external, in drying up Defluxions, stopping Hæmorrhages, conglutinating Wounds, and fastening loose Teeth. *Schroder.* The Learned generally take the *Sanguis Draconis* of the Moderns, for the Cinnabar of *Dioscorides*; the Cinnabar of the later Antients is *Minium*, *Raii Hist.* p. 1598. *Ray*, as well as *Parkinson*, reject, as a mere Fable, what *Monardus* relates, of the Figure of a Dragon, naturally impressed on the Fruit of this Tree. *Dale.*

Sanguis Draconis, taken inwardly, is a very great Astringent and Drier. The late *Helvetius* melted it with powder'd Alum, and then made them into Pills for Diarrhoeas, Hæmorrhages, and the like; but the Patient ought first to be prepared by Bleeding, and other due Management. It is entirely soluble in Spirit of Wine. The *Dutch* counterfeit it, with Gum Arabic and Alum dissolved in Water, with *Brasil* Wood to give it the true Colour; but this factitious Kind ought not to be taken inwardly, tho' it be very proper for Painters. *Groffroy.*

The Dragon's Blood, produc'd by the Tree above-mention'd, is esteem'd the coarsest: But a better Sort is produc'd by the *Draco Arbor Indica siliquosa, Populi folia, Angsana vel Angsava Javanica*. *Commelin. Hort. Amst.* See *ANGSANA*. This *Commelinus* will have to produce the Dragon's Blood in Drops, tho' others much doubt it; as believing it to come from the *Arundo farcta Indica Orientalis Sanguinem Draconis manans*, *Hist. Oxon.*

The *Sang. Dracon. fundens foliis & caudice undique Spinis nigris armata* D. *Sherrard.* is another Plant, which affords a third Sort of Dragons Blood. This bears a small scaly Fruit, which being infused in hot Water, it extracts a red Matter from it; which subsiding, and the Water evaporated, is made up in those small Lumps we call Drops, wrapt up in Palm-leaves. *Miller's Bot. Off.*

DRACONIS SANGUIS, or *Herba Draconis*, is a Name for the *Lapathum*; *folio acuto, rubente*.

DRACONITES, DRACONTIAS, DRACHATES, *Dracourias* *Alb.* a precious Stone, generated of the Brain of a Dragon; but, unless the Head be cut off while the Animal is alive, no Gem is produced; for which Reason, they cut it off, while the Dragon is asleep. *Solæus*, who writes that he saw this Gem in the King's Possession, relates, that they go a hunting for it in Chariots, and, when they see the Dragon, scatter soporific Drugs, and so take the Opportunity to cut it off; it

is of a transparent Whiteness, and will not admit of Polishing or Art. *Pliny, Lib. 37. Cap. 10.* The *Draconites* is also pretended to be sometimes found in the Heads of *Hydri* and *Chelydri*, Kinds of Water-serpents.

Ralandus ascribes to it a Virtue of expelling all Poisons, and curing all venomous Bites. But the Whole is either a Fable, or an Imposture.

DRACONTHEMA; from *δράκων*, a Dragon; and *αἷμα* Blood; the same as *Draconis Sanguis*, which see.

DRACONTIA, DRACONTIUM, the same as *DRACUNCULUS*, which see.

DRACONTIDES, *δρακοντίδες*. A Name given, as *Ruffus Ephesus* says, to some Veins proceeding directly from the Heart. *Ruffus Ephesus, Lib. 1. Cap. 33.*

DRACONTIUM. A Name for the *Dracunculus, polyphyllus*, which see.

DRACUNCULI. Small long Worms, which breed in the muscular Parts of the Arms and Legs, call'd Guinea Worms.

Plutarch, in his *Symposiasts*, L. 8. C. 9. quotes *Agatharchides* for an Account of these Animals, which, he says, the People about the *Red Sea* were, at a certain time, very much afflicted with. *Plutarch* calls them *δρακονίσια μικρά*, which, he says, were bred in the Arms and Legs, and which put out their Heads, and, upon being touch'd again, hid themselves in the Muscles, and caus'd an intolerable Inflammation.

Agatharchides liv'd in the Reign of *Ptolemy Philometor*, who began to reign A. M. 3770. *Vossius de Hist. Græc. Strabo L. 14. Le Clerc. M. H.*

Dr. Freind is therefore mistaken, when he says *Aetius* is the first, that gives any Account of the *Dracunculi*.

The *Dracunculus* resembles a common Worm; is sometimes great, sometimes small; is most commonly found in the Legs, but sometimes in the muscular Parts of the Arms. They are generated in *Ethiopia* and *India*, and principally affect Children; and their Generation is not unlike that of the broad Worms of the Belly. While they move under the Skin, they create no Trouble; but, in Length of Time, the Place near the *Dracunculus* suppurates, and the Animal puts forth his Head. If it be drawn, it excites a violent Pain, especially if you draw it so forcibly as to break it off; for the Part left within, creates most intolerable Torment. To prevent, therefore, the *Dracunculus* from recurring, or slipping back, the Arm must be ty'd with a strong Thread, which must be repeated every Day, that the Animal, proceeding forwards by degrees, may be included within the Ligature, and not be subject to be broken off. During this, the Place is to be fomented with Hydromel, and Oil, in which Wormwood or Abrotanum hath been boiled; but all acrimonious things are to be avoided, for fear of an Inflammation. *Aetius, Tetrab. 4. Serm. 2. Cap. 85.* from *Leonidas*.

In *India*, and the Countries above *Egypt*, certain small Animals, like Worms, called *Dracunculi*, are generated in the muscular Parts, as the Arms, Thighs, and Legs; and in Children they lodge in the Sides, under the Skin, and manifestly appear to move. In Process of Time, the Place near one End of the *Dracunculus* suppurates, and the Skin opening, the End of the *Dracunculus* appears; but, if you attempt to draw it, a Pain is excited, and, especially, if it happens to be broken off. Some, therefore, advise, to hang a Bit of Lead to the *Dracunculus*, that the Weight thereof may extract it not precipitately, but after a slow and gentle manner. Others condemn this Method, because the *Dracunculus* is no less subject to be broken off by the Weight of the Lead, and also causes a violent Pain; for which Reasons, they advise, to put the Part affected into warm Water, the Heat of which may force the *Dracunculus* to shew itself, and afford an Opportunity of extracting it Piece-meal, with the Fingers.

Soranus supposes the *Dracunculus* to be nothing of an Animal, but a Concretion of some Nerve; and that it has only an imaginary Motion: But whether this, or the former Opinion, be the Truth, it is the Advice of *Soranus*, *Leonidas*, and others, in such Cases, to make use of Affusions of warm Water, and digestive Cataplasms, prepared of Hydromel and Wheaten or Barley-meal; and they approve of a Plaster of the same Nature to be sometimes apply'd: A proper Plaster for this Purpose, is one composed of Bay-berries and Honey. By the Use of these Applications, the *Dracunculus*, or whatever be the Substance contained in the Part, is mortify'd, and falls out; but, if it falls not out after Suppuration, the Part is to be lanced; and, being laid open, the Contents are to be removed; after which, the Place is to be dressed with Lint, and the Cure accomplish'd by the Method of Suppuration. *P. Ægineta, Lib. 4. Cap. 59.*

The Worm is, sometimes, extremely long, commonly of ten or fifteen Palms Length: *Albucasis* tells us, he saw one of twenty; and *Rhazes* mentions a Case, where a Person had forty of these Worms in his Body, and recover'd; *Avicenna* says fifty. Several Passages we may find, to the same Purpose, in modern Historians. The *Arabians* call it *Fena Medinensis*, *Fena*,

Vena, because they doubted, as *Soranus* did before, whether it was a living Animal, or rather some concreted Substance, like a Nerve; and *Medinenfis*, from its being frequent at *Medina*: And therefore *Avicenna* treats of it, not amongst Worms, but amongst Abscesses. In this, certainly, they are mistaken; and *Leonidas*, in direct Terms, calls it an Animal. The *Vena Medinenfis* is mistaken by many, and by Mr. *Le Clerc* himself, in his Supplement, for another Distemper describ'd by the *Arabians*, the *Affectio Bovina*; which is a little Worm, and often found in Cows. But *Aetius* plainly distinguishes the two Sorts, large and little; and *Albucasis* has two separate Chapters, concerning these two Diseases; and the Description he gives of them is very different.

This Distemper is often attended with a Fever, for two or three Days; and sometimes brings on terrible Symptoms, and ends in Abscesses, which require many Months to cure them. It is very common in *Guinea*, and, principally, amongst the Natives: *Kempfer* found it so too at *Ormuz*, upon the *Persian Gulf*; and therefore calls it *Dracunculus Persarum*; and not only there, but in *Tartary*. He observes, that the Disease prevails most in the hottest Climates, and in the hottest Weather; and attributes the Production of these Worms to the stagnating Rain-water, which is so much made use of in these Countries. It is easier, he says, to be cur'd in the Climate it is bred in. He saw this Worm twice alive; and describes the manner of extracting it, at large; which is much the same as the Surgeons now use in the *West Indies*, with the Blacks.

To preserve ourselves from the *Dracunculus*, Regard is to be had to the Country where, and the Food of which, it is generated; and such means are to be used, as are destructive of its Cause: These are, Evacuation of the corrupted Blood, by opening the Basilic Vein, or the Saphena, near the Part affected, with Administration of proper Cathartics; such as Syrup of Myrobalans, Decoction of Epithymum, *Pilula Cochlearia*, and *Tryphera*, prepared with Sena and Fumitory. The Body is also to be moisten'd with proper Food, Bathing, and a Regimen in other Points suited to that Purpose.

As soon as the *Dracunculus* is discover'd by evident Signs, it will be advisable, after Purging, and the Application of Leeches, to refrigerate the Part with cooling and moistening Cataplasms; such as those prepared of the known cooling, expressed Juices, with Sanders and Camphire. Among Remedies by way of Inunction, there is a good Liniment prepared of Aloes, Sanders, Camphire, or Myrrh, the Seed of *Psyllium*, [Fleawort] and new Milk. If the Part be not pained, but yet a Vesicle is excited, it is sometimes repressed, and vanishes, and the Patient is relieved, by taking a Dram of Aloes every Day, for three Days together; or by taking half a Dram the first Day, a full Dram the next, and a Dram and half the third Day; and by the Application of Aloes, or the viscid Juice of recent or green Aloes to the Part, or to the Orifice at which the *Dracunculus* appears. If these Remedies prove ineffectual, and the *Dracunculus* comes forth, it will be proper to provide something, to which you may tie it, and on which it may gently roll itself, by degrees, till it be all come forth, without breaking. The most convenient thing, on which it can roll itself, is a Piece of Lead, of a just Weight, to draw in so gentle a manner, as not to break off what is fasten'd to it. The utmost Care is to be taken to render its Passage easy, by strengthening the Member, and opening the Pores, by fomenting it with warm Water, refrigerant Mucilages, and emollient Oils, endu'd with a Coolness, and a subtile Heat, and whatever other things are, for the like Reasons, qualify'd to promote its Egress. Sometimes these Means will not answer the Purpose; and therefore we must have recourse to Liniments prepared of *Oleum Cheirinum*, [Oil of the *Viola lutea*] *Oleum Jasminum*, [Oil of Jessamy] or *Balaninum*, [Oil of the Ben-nut] applying thereon a Plaster of Pitch. If the Place seems to require Opening, in order to take out the *Dracunculus* entire, and nothing forbids, let it be opened, and the *Dracunculus* extracted; but if its Egress be not facilitated by the Method before describ'd, and the Opening be impracticable, attempt the Suppuration of it with Butter; for, by this means, it will all be putresc'd, and so come away. But avoid the Use of acid Medicines, by which the Sore has been, sometimes, converted into a *Phagedena*. Moreover, if you rub its Extremities gradually, every Day, with Salt, or use gentle Frictions of its hinder Parts, or if the Place whence it proceeds, be tenderly and skilfully anointed, it will come away entire: And the Effect will be more certain, if an Incision be made, according to the Length of the *Dracunculus*, and it is loosen'd and rais'd, by introducing a Probe under it; and the Place, while you are removing it, is continually absorged, in a tender and gradual manner, with Salt; for, by this Method, you will be entirely deliver'd from it: But if it breaks, and, retiring, lies conceal'd, the Place is, without the least Scruple, to be lanced, that you may again take hold of it, and gently extract it; which done, the Place must be treated like other Wounds. *Avicenna*.

The modern Accounts of these *Dracunculi* agree pretty

exactly with those already specify'd: Thus Dr. *Towne*, in his Treatise of the Diseases of the *West Indies*, informs us, that this Distemper is not so frequent any-where, as on the Gold-coast, about *Anamboo* and *Cormantyn*.

This Worm is white, round, long, and uniform, very much resembling white round Tape, or Bobbing; nor have I ever seen any of them broad and flat, as they are describ'd by Authors. It is lodged between the Interstices and Membranes of the Muscles, where it insinuates itself to a prodigious Length, sometimes exceeding five Ells. It occasions no great Pain in the Beginning; but, at such time as it is ready to make its Exit, the Part adjoining to the Extremity of the Worm, where it attempts its Exclusion, begins to swell, throb, and be inflam'd: This generally happens about the Ankle, Leg, or Thigh, and rarely higher.

The Countries where this Distemper is observed, are very hot and sultry, liable to great Droughts; and the Inhabitants make use of stagnating corrupted Water, in which it is very probable that the Ova of these Animalcula may be contained; for the white People, who drink this Water, are obnoxious to the Disease, as well as the Negroes.

The Surgeons seldom attempt to extract this Worm, by making an Incision; but, as soon as they perceive the Tumor rise to a competent Bulk, they endeavour to bring it to Suppuration, with all convenient Expedition; and then the Head of the Worm discovers itself, which they secure, by tying it to a Bit of Stick or Cotton, that it may not contract, and draw itself up again: Thus they continue to roll it round the Stick daily, sometimes one Inch, sometimes two or more each Day, taking great care not to break the Worm, which if they chance to do, it will be very difficult to recover the End of it again; and an Abscess will be formed, not only at the suppurated Part, but also thro' the whole Winding of the Muscles, where the dead putrifying Worm remains: So that, from an Accident of this Kind, you shall have Apostumations produced in several Places in the Limbs, which generally occasion very obstinate Ulcers, and give the Surgeon great Perplexity in the Cure of them.

I must likewise take notice, that, during the Extraction of the Worm, the Patient should be plied with bitter aloetic, and other anthelmintic Medicines, in order to dislodge the Worm the sooner from his Tenement; and it is observed, that these Vermin protrude themselves much faster, when these Remedies are given.

When the Worm is totally extracted, the remaining Ulcer, thro' which it passed, may be treated in the same manner as other common Ulcers; nor does any farther Inconvenience remain in the Parts of which it had Possession.

This Disease, simply considered, very rarely, if ever, proves mortal. I have myself a young, and otherwise hale, Negro Girl, who had nine of these *Guinea Worms* extracted from her, without any bad Consequence ensuing. *Towne's Treatise on the Diseases in the West Indies*.

Under the Article *BOVINA AFFECTIO*, I have taken notice of a Disorder, the only one that occurs in our Climate, in *Man*, which can properly come under this Appellation. But because the *Affectio Bovina* is not unfrequent in some Climates, and has been confounded with the *Dracunculi*, I shall here insert the *Arabian Account* of this Distemper.

The Disease called by the *Arabians*, or their Interpreters, the *Passio* or *Aegritudo Bovina*, is seldom known in *Europe*, and is not so much as mentioned by the antient *Greeks*. *Avenzoar* gives an Account of it, *Lib. 2. Cap. 7. Tract. 20.* in the following Words: Sometimes a Worm breeds between the Skin and the Flesh; which Disease is called *Aegritudo Bovis*, "the Distemper of Black Cattle," because these are most subject to it. If the Physician neglects to kill this Worm, the Consequences of such an Omission may be very pernicious. As soon, then, as you find yourself molested with this Animal, at its first Appearance, burp the adjacent Parts with a hot Iron, that the Heat may penetrate to the Worm, in a Degree sufficient to kill it. This done, the Sore must be healed after the manner of other Combustions, by such means as follow: Apply Lint mix'd with Barley-meal and fresh Water; apply also Vinegar, but in so small a Quantity as not to give Pain, but to be sufficient for conveying the Virtue of the Medicine to the Depth of the Burn. When the Pain is ceased, anoint the Place with Ointment of *Agrippa*, and Oil of Roses, till the Tumor be removed. After this, wash the Place with Hydromel, and sprinkle it with Powder of Roses. If the Flesh be burnt away, apply some proper Ointment, and Powder of Roses, till the Cavity be filled with Flesh, and the Whole consolidated: And this is the general Method of Cure for all Injuries by Fire. If the Patient be fearful of Burning, take a middling Walnut-shell, and, having excavated it, fill it up with equal Quantities of Meal of Lupines, Soot, Pepper, and Root of Scara, pounded together, and moistened with *Achytran* [see the Word]: Then put the Shell upon the Place where the Worm lies, and hold it there, till the Virtue of the Medicine has penetrated to it. This Medicine is included in a Walnut-shell for the more convenient surrounding of the Worm on every

every Side, and preventing its Escape, till it be killed. Purge the Patient also with the Medicines prescribed for the *Vena Medinensis*.

Albucasis, treating of the same Disorder, *Lib. 2. Cap. 25.* thus expresses himself: This Disease, he says, in some Parts of our Country, is called *Ægritudo Bovina*, because it frequently happens among Black Cattle, being a small Worm generated between the Skin and the Flesh. This Worm takes its Course over the whole Body, ascending and descending, and is plainly perceivable in its Motion from one Part to another, till it breaks the Skin; and where-ever it makes a Breach, there it finds an Egrefs. It is generated of the Putrefaction of some Humours, after the manner of *Ascarides*, and Worms in the Belly, and is to be dreaded for the Mischief it often does; for, in the Course of its Progress, when it ascends to the Head, it frequently opens in so inconvenient a Place, and so unfortunately for the Patient, as to occasion the Loss of an Eye. When you have a mind, therefore, to be cured, by extracting this Animal, it will be first necessary, that it should move, and that you should plainly perceive it; after which, make a strait Ligature above and below it; then make an Incision, and extract it. If it lie deep in the Flesh, so as not to be found, apply an actual Cautery over it, till you have killed it. The worst thing to be feared from it is its Corruption, which may affect and ruin the Eye, if it happens to be lodged near it. If you perceive, that it is ascended to the Head, and arrived near the Eye, secure the Eyebrow under it with a good Ligature, and then cut upon the Worm, and extract it. The Patient also must take care to cleanse his Body by Medicines which dissolve putrid and ill Humours, and avoid such Meats as are disposed to generate them.

Alzaravius, another *Arabian* Author, *Secl. 2. Tract. 31. Cap. 13.* has these Words: The *Passio Bovina* is so called, because it commonly affects Black Cattle. It is a Worm, which is generated between the Flesh and the Skin, and takes its Progress over the whole human Body, till it perforates the Skin, and makes its Egrefs where-ever the Perforation happens, which may possibly be near the Eye, to the utter Ruin and Destruction of the same by the Worm's passing out that Way. This little Animal is of the Colour of the Body of the Patient, with a black Head, and is generated of the same Humour as Lice and Nits. This Humour putrefies under the Skin, which is a Disorder incident to some Persons in certain Countries, and known by perceiving the Motion of the Animal creeping under the Skin. The Cure prescribed by *Alzaravius* consists principally in Purging, and the Use of the hot Bath, as the Method is for the moist Scabies. The Cure, by Surgery, is the same as was directed by *Avenzoar* and *Albucasis*. Thus far the *Arabian* Physicians.

Another *Bovinus Affectus*, of a different Nature, is very well described in a late Dissertation *de Bœum Oestro*, written in *Italian* by the famous *Wallisnerius*. This *Oestrum*, or vexatious Fly, pitches on the Backs of Black Cattle, and, with a kind of Sting growing to its hinder Part, perforates them, as with an Augre, in many Places, and into each Perforation introduces an Egg, which, some time after, gives Birth to a Worm, and this to a Fly, which, in due Season, will, in all respects, be like its Parent. The Cattle very much dread this mischievous Fly, which has Force enough deeply to penetrate the hard Skin of an Ox, exciting an intolerable Pain; and run from it with all their Might. The Worm, however, which is deposited, grows, without any remarkable Injury to the Health of the Animal; and the Farmers are even persuaded, that those Cattle are soundest, who have this Worm lodged in their Hides. This Insect never creeps, nor moves from Place to Place, but remains quiet in its first Settlement during the Winter, till, as it increases, a Tumor begins to appear, in which it lies concealed; and this Tumor is insensibly dilated to such Dimension, that the Insect may conveniently reside and grow therein, till it arrives at its due Size and Perfection; after which, in the following Summer, it breaks forth, and afterwards is changed into a Chrysalis, of which Shape at length it divests itself, and assumes that of a Fly. *Le Clerc. Hist. Lumbric.*

The *Chicor* or *Chiores*, as I think they are called, may properly enough come under this Article. These are small Worms, which, in the warmer Parts of *America*, frequently breed in the muscular Parts, and particularly in the Feet. The *Indians* and *Negroes* are very dextrous at picking these out; and then they cure the Sore, by rubbing it with the Ashes of Wood.

Besides the Worms which breed in the Skin, already mentioned, the Inhabitants of *Misnia*, especially the Children, are subject to another, of which *Frederic Hoffman*, in his Treatise on endemical Distempers, gives the following Account: The Children of this Country (*Misnia*) are frequently seized with a Tabes or Consumption, which so destroys their Flesh, that they appear like so many Shades or Phantoms. Tho' those who labour under this Distemper are commonly thought to be under the Influence of Witchcraft, yet such as have inquired more narrowly into this Disorder, have observed Worms, like black Hairs or Cords, lodged under the Skin. These Animals are

usually called *Comedones*, or *Gluttons*, because they intercept and devour the nutritive Juices in their Distribution. When the Skin is rubbed with Honey, either in a Bath, or any other warm Place, they come out; but when it is contracted, and braced up by Cold, they keep concealed within.

I don't know whether this Distemper is the same as that which the *Germans* call *Seuren*, *Sirenes*, or *Grinones*, of which *Sennertus* gives the following Account: "A Species of Pustules, by the *Germans* called *Seuren*, arise on the Palms of the Hands, and Soles of the Feet, in which are lodged a small kind of Worms, which they call *Sirenes*, or *Chirones*. The Pustules of this kind are principally produced in these Parts, because the Skin being thicker, the viscid Ichor is detained and pent up by it."

"That Worms are lodged in these Pustules, may be known from the greater Itching of these Parts, than is at other times perceived."

"These are, for the most part, extracted with a Needle; and, in order to prevent their future Formation, the Parts are to be washed with Wine or Vinegar, in which Salt, Alum, or Nitre, have been dissolved; or with a Lixivium prepared of the Ashes of Broom or Oak-branches. After the Parts are washed and dried, they are to be anointed with the following Ointment:"

Take of sharp-pointed Dock, Scabious, Wormwood, Tansy, the Leaves of the Peach and Ash-trees, Henbane, and Acorns, each an Handful: Bruise all together; then add two Pounds of old Hog's-lard; and let the Whole boil to a Consumption of the Moisture; then add a Pound and a half of common Pitch, and strain the Whole through a Cloth: Then put into the strain'd Liquor Myrrh, Frankincense, and Massich, each two Ounces, reduced to a fine Powder; and stir all with a Spatula, till they assume the Consistence of an Ointment, to six Ounces of which, when you intend to use it, you may add one Ounce of Quick-silver, extinguished with Spirit, or the White of an Egg. By means of this Ointment, these Scabs may be cured, the Worms extracted, and the Itching removed, in fifteen Days. *Sennertus, Lib. 5. Par. 1. Cap. 24.*

DRACUNCULOIDES. Baslard Dragon.

The Characters are,

The Root is white, pellucid, and consists of a Multitude of oblong Tubers, without Fibres, like the Root of the Asphodel. On the Top grows a smooth orbicular Tuber, as in the *Arum* or *Dracunculus*. From this Tuber arise thick succulent Pedicles, smooth on the back Part, and excavated on the Inside, where, with their membranaceous Alæ, they involve the Leaves. These Pedicles are of a white Colour, and painted with round Spots of a purplish Red. From them proceed long, broad, entire Leaves, terminating in a Point, somewhat like the Leaves of the *Musa* (Plantain-tree), but less. From the Middle of this Tuber, amidst the Leaves, springs up a tall, upright, flattish Stalk, spotted like the Pedicles of the Leaves. The Top of this Stalk is expanded into a hexapetalous Calyx, from the Centre of which arise many Pedicles, which spread themselves almost in the Form of an Umbella. The Apex of each Pedicle becomes a round umbilicated Berry, containing one Seed. On the Apex of the Ovary grows an hexapetalous expanded Flower, furnished with six reddish Stamina. *Boerhaave, Ind. alt. Pars 2.*

DRACUNCULUS.

The Characters are,

The Leaves are deep-cut, with various, large, and profound Jags. In other respects, this Plant agrees with the *Arum*. *Boerhaave, Ind. alt. Par. 2.*

Boerhaave mentions three Species of this Plant; which are, 1. *Dracunculus*; polyphyllus, *C. B. Pin. 195. Tourn. Infl. 160. Elem. Bot. 130. Boerb. Ind. a. 2. 75. Dracontium*, *Offic. Dracontium majus*, *Ger. 682. Emac. 831. R. Hist. 2. 1211. Dracunculus major vulgaris*, *J. B. 2. 789. Dracunculus bertenensis, sive serpentaria*, *Park. Parad. 529. Arum Polyphyllum*, *Rivin. Irr. Hex. Rupp. Flor. Jen. 203. Arum Polyphyllum Dracunculus, & serpentaria dictum, caule maculato, majus & elatius*, *Herm. Cat. Hort. Lugd. Bat. 62. Arum Polyphyllum, sive Dracunculus Polyphyllus*, *Hist. Oxon. 3. 548. Serpentaria, Dracunculus*, *Chab. 259. Erva de Santa Maria, sive Dracunculus major*, *Pison. 240. DRAGONS.*

This Plant has a pretty thick whitish Stalk, made up of several Coats wrapt over one another, having the Outside spotted with reddish and purple Streaks and Spots. It arises to a Foot and a half, or two Foot high, bearing on the Top two or three smooth, shining, green, winged Leaves, cut each into several Sections; among which comes forth a large Hood, green on the Outside, and of a deep shining Velvet-purple within, covering a large purple Pistillum, in Shape like that of *Arum*, but much larger, being succeeded by several large red Berries. The Root is large, round, and knobbed, with several Fibres at the Bottom. The Herb, with the Stalks, is used.

Dragons are accounted a good Alexipharmic, and useful in malignant contagious Distempers, and pestilential Fevers; and,

as the Vulgar phrase it, to drive any thing from the Heart. Wherefore it is given in Medicines to drive out the Small-pox and Measles, and cause Sweat. *Miller's Bot. Off.*

2. *Dracunculus*; polyphyllus; foliis ex luteo variegatis, *H. R. Par. co.* THE YELLOW STRIP'D LEAV'D DRAGON.

3. *Dracunculus*; Americanus; quod *Arum hederaceum*; triphyllum, & auritum, *Plum. Pl. Am.* 41. Fig. 51. c. & 58. *H. co.* *Boerh. Ind. alt. Vol. 2.*

Besides the three preceding Species of the *Dracunculus*, *Dale* mentions a fourth; which is,

Dracunculus major, *Offic.* *Dracunculus biforti folio*, *C. B. Pin.* 194. *Dracunculus major Matthioli*, *Ger.* 683. *Em.* 832. *Arum caulescens Ramicis agrestis foliis sibi invicem implicatis Virginianum*, *Pluk. Phytog.* Tab. 271. Fig. 1. *Almag.* 50. *Arum major caulescens Lapatii foliis*, *Hist. Oxon.* 3. 545. GREAT DRAGONS.

It grows spontaneously in *Virginia*; and the Root is used in Medicine, which, according to *Dioscorides*, is good for the Orthopnea, Ruptures, Convulsions, Coughs, and Distillations. *Dale, ibid.*

Dracunculus hortensis. See DRACO HERBA.

Dracunculus pratensis & *Alpinus* are Names for several Species of the PHARMACA.

DRAGANTUM. The same as TRAGACANTHUM, or, according to *Rulandus*, Spanish Vitriol.

DRAGETA. The same as TRAGEA, which see.

DRAGMA. The same as MANIPULUS, a Handful. *Blancard.*

DRAGMIS, *δραχμή*, in *Hippocrates*, is a Pugil, or as much as can be held between the Thumb and two Fingers. It is sometimes written with a *χ*. *δραχμῖς*, *Drachmis*.

DRAKENA. See CONTRAYERVA.

DRANGÆA. The Name of several Antidotes in *Myrepsus*. It is a Composition, according to *Fuchsius*, which answers to what the Moderns call *Tragæa*.

DRAPTA, *δραστή*, in *Galen's* Exegesis on *Hippocrates*, is expounded by *επιπνευγμένα*, dilacerated.

DRASTICOS, *δραστικός*, (from *δράω*, to act, perform, effect) drastic, or active, is an Epithet bestowed on such Medicines as are of present Efficacy, and potent in Operation; and is commonly applied to Emetics and Cathartics of a violent Quality. *Castellus.*

DRIFF. A Name given by *Helmont* to *Butler's* Stone, or some other powerful fermentative Remedy of that kind. It is what is prepared of *Ufnea*, [see the Word] Sea-salt, and *Ens Veneris*, with a Solution of *Ichthyocolla*, which is accounted the *Periapton Salutis Magneticum*, that cures Diseases by only touching it with the Tip of the Tongue, *Ephem. N. C. Ann.* 2. *Obs.* 53. *Schol.* Others of the Moderns direct a Preparation of *Driff* from a Caput Mortuum of Vitriol of Copper, with the Help of volatile Salt of Urine, divested of its fetid Quality. This *Driff* is different from the *Mercurius Diaphoreticus*, and from the Oil of Vitriol of Copper. *Castellus.*

DRIMYLEON, DRUMYMOROS, *δριμύλειον*, *δριμύμωρος*, (from *δριμύς*, eager, sharp, shrewd, and the like, and *λέων*, a Lion, and *μωρός*, a Fool) were Terms bestowed by *Athenodotus* the Empiric, by way of Jest or Reproach, upon the Physicians and Philosophers, who professed to govern their Speculations and Practice by Reason. *Galen. Lib. de Subsig. Emp. Cap.* 13.

DRIMYPHAGIA, *δριμυφαγία*, from *δριμύς*, acrid, and *φαγω*, to eat. The eating of acrid Substances.

DROMA. The Name of a Plaster described in *Nicolaus Myrepsus*, *Secl.* 10. C. 26.

DROMEDARIUS. The Dromedary. See CAMELUS.

DRONTE or Dod-aers. The Name of a Bird, a Native of an Island in the East Indies, which *Lemery* supposes to be *St. Maurice*. This Animal should be very large, or very nourishing, or both; for the above-quoted Author informs us, that three or four of them are a sufficient Repast for a hundred Men.

The Fat is esteemed emollient and resolvent.

DROPACISMUS, *δρωπακισμός*. The same as DROPAX, which see.

DROPAX, *δρόπαξ*. See CEROPISSUS.

DROSATUM, *δρόσατον*. The same as ROSATUM.

DROSERON. The Name of an Ointment in *Nicolaus Myrepsus*, *Secl.* 3. C. 93.

DROSIOBOTANON, *δρωσιόβωτον*. Betony. *Nicolaus Myrepsus.*

DROSION. A Name for the *Ros Solis*; folio oblongo.

DROSOMELI, *δρωσόμελι*. Manna. *Galen.*

DRUPA. An Epithet for Olives, which, when ripe, fall from the Tree spontaneously. *Castellus* from *Paulus Aegineta*, *L.* 1. C. 81.

DRYINUS, *δρύινος*, from *δρῦς*, an Oak. A sort of Serpent.

The *Dryinus*, according to *Galen*, lives about the Roots of Oak-trees, and is of such a mischievous Nature, that, if a Man should happen to tread on one of them, he will find his

Feet excoriated, and his Legs swelled; and, what is more surprising, we are told, that even Persons who dress and apply Remedies to the affected Parts, will find their Hands excoriated; and that whoever kills one of them, contracts a very bad Stench, and can smell nothing else himself. In those who are bit by the *Dryinus*, the Swelling rises about the Place with a Redness, and an Eruption of Pustules in the adjoining Parts. The Bite is attended with Pains about the Mouth of the Stomach, and Gripes; and a Discharge of aqueous Sanies sometimes succeeds. Birthwort taken in Wine, Trefoil, and the Root of Asphodel, taken in the same manner, and all Sorts of Acorns triturated and taken, are very proper Remedies in this Case; and the Roots of the *Ilex* bruised, and applied to the Part affected, afford great Relief. *Paulus Aegineta*, *L.* 5. C. 14.

DRYOPETIS. A sort of green small Frog, which lives in Thickets. It agrees in Virtues with other Frogs. See RANA.

DRYOPTERIS, from *δρῦς*, an Oak, and *πτέρις*, Fern, that is, Oak-fern. A Name for the *Polypodium, tenerum, minus*.

DRYPA. See DRUPA.

DRYPETES, *δρυπητής*, from *δρῦς*, and *πίπτω*, to fall. The same as DRUPA.

DUAMIR. A Viper. *Rulandus.*

DUBEL COLEPH. A Composition of Coral and Amber. *Rulandus.*

DUBELECH. The Cavity of an Apostem, with a manifest Solution of Continuity. *Rulandus.*

DUBLETUS. An incysted Tumor, or an Abscess in general. *Amatus Lusitanus.* The Word is of Arabic Original.

DUCCIA, according to *Baccius*, and DUCIA, according to *Forestus*, are barbarous Terms for Gutta, a Drop, and imply that sort of Bathing, which we call Pumping; that is, letting medicinal Waters fall on any Part of the Body. *Baccius*, in his Treatise of Baths, *L.* 2. lays down Rules for this Species of Bathing.

DUCTUS. A Duct or Canal, frequently applied to many Parts of the Body, which convey particular Fluids.

DUDAIM. A Name for the Mandragora. *Schroder.*

DUDASALI. A Species of *Lignum Colubrinum*. Snake-wood.

DUELECH. The same as DULECH, which see.

DUELLA. The third Part of an Ounce, or eight Scruples. *Rhodius in Scribon. Larg.*

DUENEC. Mercury of the Philosophers. *Libavius.*

DUENECH. Antimony. *Rulandus.*

DUENEZ. Filings of Steel. *Rulandus.*

DULCACIDUM. A Medicine prepar'd of acid and sweet Ingredients; or any thing which tastes acid, and, at the same time sweet.

DULCAMARA. See AMARA-DULCIS.

DULCEDO Saturni, is Ceruss.

DULCEDO Veneris, is the CLITORIS.

DULCHICHINUM. A Name for the *Cyperus*; rotundus; esculentus; angustifolius.

DULCICHINUM. A Name for the BULBOCASTANUM.

DULCIS-AMARA. See AMARA-DULCIS.

DULECH, or DUELECH. A Term us'd by *Paracelsus* and *Helmont*; importing a Sort of Tartar, or spongy Stone, generated in the Body, and causing great Pain and Danger. *Paracelsus* distinguishes it from Tartar, and says, it is a Substance of a middle Nature, betwixt Tartar and Stones.

DULESH. The Name of a Species of *Alga*, which the Irish chew for their Diversion, contorted like a Roll of Tobacco. *Raii Hist. Plant. Appendix.*

DUODENUM. The first of the small Intestines, so call'd, because it is about twelve Fingers Breadth in Length. For a Description of this, see COELIA. As this Intestine is the Seat of many troublesome and dangerous Distempers, I believe, whoever reads for Information, will not be pleas'd at the following Dissertation.

Sylvius establishes the whole Art of curing the Diseases of the Body, on the following Foundation: He asserts, that the human Body is entirely govern'd by the Bile, Phlegm, and pancreatic Juice; and accounts not only for the Digestion, but also Life and Health, from the Temperature, Mixture, and mild Effervescence of these: As, on the other hand, he asserts, that all the Diseases of the Body, and the very Method of Cure, arises from their Intemperature, their Excess, or Defect.

When *Sylvius* publish'd his Opinion, it was received with great Applause, because there was nothing obscure or imaginary, nothing like the Dreams of the *Galenists* in it, and because it seem'd to be founded on the Nature of Things: But when this Scheme began, some time after, to be canvass'd, and more narrowly look'd into, it lost much of the Character, which was given it on the first Publication: For Persons skill'd in Physic and Anatomy could not fail to discover several Blemishes in it; and, particularly, his Rashness in affirming, that there is an Effervescence of Juices in the Duodenum. To support

support this Opinion, he asserts, that the Bile is purely alkaline: But this is a great Mistake; for if you pour any strong Acid, such as the Spirit of Vitriol, upon Bile, it will make no Effervescence, but becomes a yellow and mucilaginous Mass; and if you add the Spirit of Nitre, which is as strong an Acid, they will coagulate, assume a green Colour, and have but very little Motion.

He is as much mistaken, when he asserts, that the pancreatic Juice is acid, since we know by Experiments, that, whatever alkaline Substance be pour'd thereon, it raises no Effervescence, and much less, when mix'd with the Bile. And the celebrated *Brummerus*, in his learned Book of the Pancreas, has demonstrated, that Animals will breathe and live, after their Pancreas is cut out; which Experiment alone is sufficient to overthrow *Sylvius's* Opinion in this respect.

He has committed a great Error, in pretending to account for Life and Health, from his Triumvirate of Humours, if I may so call it; and in deriving the whole Art of Medicine, both with respect to Theory and Practice, from the same Source: For many things relative to the Use of Remedies, and the Explication of natural Phenomena, which cannot be well derived from these Principles, abundantly demonstrate its Weakness and Insufficiency. Not to say any thing of those Diseases, which are incident to certain Constitutions and Families, and rage at certain Ages and Seasons; it is sufficiently evident, that many mortal Diseases may take their Rise from the Bite of a mad Dog, the putrid pestilential Contagion, and the Venereal Disease, and even from the Passions alone, without any previous Corruption of the Humours: We also know by Experience, that many contract Distempers, and even die, of a Redundance and Extravasation of Blood, and of Corruptions of the Viscera; and, to ascribe these to Defects in the Bile, Phlegm, and pancreatic Juice, is absurd to the last degree. I have the longer insisted on this Subject, in order to make it evident, that *Sylvius's* Hypothesis, tho' useful in other respects, is by no means adequate to the Explanation of the whole Art of Medicine; and, tho' it be neither universal, nor sufficiently explain'd, yet it ought not to be despis'd, as it may be of considerable Use in Medicine, if due Care be taken, not to follow him so closely, as to adopt his Errors. He is, however, in the right, when he asserts, that many chronical Distempers are seated in the Duodenum, and there generated; and my Design, in the present Dissertation, is, to establish and explain, in a more rational Sense, this Opinion of *Sylvius*, which is, at present, partly neglected, and partly exploded. When any new Opinions, of real Use, are advanced, it is the way of Mankind, instead of canvassing them carefully, to embrace them hastily at first; and, when Experience does not confirm them, to relinquish them as hastily; so difficult a matter it is to keep a due Medium in any thing: And this exactly happened to be the Fate of *Sylvius's* Hypothesis; for, when it first appear'd in the World, it was eagerly embrac'd; but when it was found not to answer in all things, as it was impossible it should, it lost, on a sudden, all the Reputation it had acquir'd but a little before; tho' there are, at the same time, a great many Truths in his System, which ought to be regarded in the Method of Cure. My Business, therefore, at present, shall be, to examine *Sylvius's* Hypothesis, and so bring it, as it were, from Darkness to Light.

My real and firm Opinion, then, is, that the first of the small Intestines, which is call'd by the Name of *Duodenum*, performs Offices utterly remote and distinct from those of the other Intestines; and, for this Reason, deserves a particular Consideration; for Nature, not content with furnishing us with a large and superior Stomach, has also provided us with a lesser Stomach; and as in the former, there is a coarser and more simple Solution of the Aliments, so, in the latter, the Solution is more refin'd and elaborate, and the Aliments more perfectly mix'd and attenuated: And as, on the one hand, this Intestine is of the greatest Use and Service to the animal Economy; so, on the contrary, if it labours under any Disorder, and becomes incapable of performing its Functions, it gives Occasion for many, and those very severe Distempers.

But, that the Truth of my Assertion may be the more evident, I shall consider the Structure of the Duodenum, that thence we may form a Judgment of its Uses. To me, the Duodenum seems to be a small succedaneous Stomach, and the great Laboratory for the Digestion of the Aliments. Now the principal thing requir'd in the Structure of a Stomach is, to have a Flexure, and a Bottom to retain, for some time, the Aliments it receives: And all Anatomists generally agree, that the Duodenum begins at the Right Orifice of the Stomach, and makes a remarkable Flexure towards the Spine of the Back. *Riolanus* in *Enchirid. Anatomic. Patholog.* says, that the Duodenum bends towards the Spine. *Blancard*, in *Anatom.* p. 410. is of the same Opinion: The Duodenum, says he, runs from the Pylorus towards the Spine, under the Stomach, almost round the Centre of the Mesentery; then it is join'd, by membranous Ligaments, to the Vertebrae of the Loins; and, without making any further Circumvolution, ends at the Left

Kidney, where the Windings of the *Jejunum* begin. In like manner *Hornius*, in *Microscop.* says, that the Duodenum begins at the Stomach, and, making a small Flexure downwards, runs directly to the Spine; and there, near the Centre of the Mesentery, lies transversely on the Vertebrae of the Loins. And *Munyks*, de *re Anatomic.* asserts, that the Duodenum, the first of the small Intestines, lies transversely on the Spine; that it admits the biliary and pancreatic Ducts, and is connected with the broad Extremity of the Pancreas; and that, when it begins to make Circumvolutions, it acquires the Name of *Jejunum*. *Vesalius*, in *Anatom.* p. 379. expresses himself, relative to the Duodenum, after this manner: The first of the Intestines, says he, begins at the inferior Orifice of the Stomach, whence immediately being reflected backwards, under the posterior Part of the Stomach, it is carry'd directly downwards upon the Right Side of the Spine, without any Circumvolutions: And therefore many Anatomists are mistaken, who assert, that the Duodenum terminates, where the Orifice of the biliary and pancreatic Ducts opens into its Cavity; for the Extremity of this Intestine is more properly fix'd at the Part where its Flexure ends, and begins to form Circumvolutions. And hence *Verebryen*, in *Anatom.* p. 41. very justly observes, that the Duodenum begins at the Right Orifice of the Stomach, then turns towards the Spine, and ends on the Left Side, where the Circumvolutions begin. *Hornius*, in *Opuscul. Anatom.* says, that Authors have not determin'd where the Duodenum ends; for those who will have it to be twelve Fingers Breadth long, from which it has acquir'd the Name of Duodenum, ought not to seek for the End of it at the Insertion of the biliary Duct, but rather on the Left Side, where the Intestine begins to form Circumvolutions: And *Higmore*, in *Anatom.* p. 27. makes the End of the Duodenum to be, where the Circumvolutions begin. Another thing requisite in the Structure of a Stomach is, to have a capacious and ample Cavity: Now tho' the Cavity of the Duodenum is not so large as that of the Stomach, yet it far exceeds the rest of the small Intestines in Capacity; and hence *Vesalius*, in *Anatom.* p. 379. observes very justly, that the Part of the Duodenum, under the Stomach, which is connected to the Spine, is found, upon Dissection, to be more capacious than the other Parts of the intestinal Duct. *Veslingius*, in like manner, ascribes a Laxity and Largeness to it; which is confirmed by what *Diemerbroeck* advances, p. 153. that anatomical Observations discover, in this Intestine, a remarkable Largeness and Laxity. *Bartholine*, therefore, *Bauhine*, and *Blancard*, with other Anatomists, err egregiously, when they assert, that the Duodenum is, indeed, thicker than the other Intestines, but less capacious: That the Duodenum is a sort of Stomach, and performs the like Functions, appears from its internal Structure, which is the same with that of the Stomach; for the Stomach is furnish'd with a glandulous and villose Coat, out of which there continually distils a solvent Juice; and the same Coat is continued thro' the Duodenum. This Coat absorbs no Fluid from the Cavity of the Intestine, as having no patent Ducts to receive it; but it secretes from the Blood, a Juice of the same Nature with that, call'd the Menstruum of the Stomach: And, what is particularly remarkable, besides this glandulous Coat, the Duodenum is furnish'd with innumerable small Glands, which, upon a Separation of the *Tunica villosa*, are very conspicuous, and are situated in the nervous Coat. *Wepfer*, in *Hist. Cicut. aquatic.* p. 190. informs us, that he found scatter'd here and there, above a Hand's Breadth from the Pylorus, a great Number of Glands in the Duodenum, which, upon taking off the fibrous Coat, appear, as it were, conglomerate; that they were about the Size of half a Hemp-seed; and that, being macerated in Water, they discharg'd a large Quantity of Mucus, even for the Space of eight Days after the Death of the Subject. The famous *Brummerus* has the Reputation of having first discover'd these Glands. See *Misc. Natur. Curios.* Dec. 11. ann. 5. p. 464.

These Glands were certainly design'd to secrete the solvent Lymph, and pour it into the Cavity of the Duodenum. Another principal Quality of a Stomach is, to dissolve the Consistence and Adhesion of the Aliments: And this Solution is principally carried on in the Bottom of the Stomach, where the Aliments continue for a considerable time. The Duodenum, which I call a Stomach, has, in some respects, a kind of Privilege and Prerogative above the Stomach; for the latter only receives the fermentative Juices from the glandulous and villose Coat; whereas the former, besides this Coat, and its proper Glands, has also some peculiar and remarkable Ducts, which discharge into its Cavity a highly active Menstruum: For the bilious Juice runs in a less Quantity from the Gall-bladder, but in a larger from the Liver, and its biliary Ducts; and, from such a great Quantity of Juice convey'd into it, the Importance of the Duodenum is evident. In like manner the Duct emerging from the pancreatic Gland, which is remarkably large, conveys into it a great Quantity of Lymph, of a solvent Nature; which is a further Proof of its singular Use: And it is further observable, that these two Ducts run together in a human Body, and their Orifices end in a Papilla, and are directly

directly plac'd over the Bottom of the Flexure of the *Duodenum*, as I have frequently observ'd in Dissections; that the Liquids convey'd by these Ducts, might descend in such a manner, Drop by Drop, on the subjacent Mass of Chyle, as to form a Menstruum, of wonderful and universal Use in the animal Economy, and a true Balsamic, compos'd of Bile, which is an alcalino-sulphureous Fluid, and the pancreatic Juice, of a very thin and spirituous Nature.

In the Stomach the Aliments are only dissolv'd, and their Juices are not there separated, and convey'd to the Blood; for all Anatomists agree, that the Stomach is not furnish'd with lacteal Vessels: In like manner, we do not observe any Lacteals in the Duodenum, and, consequently, there is no such Secretion made there, as is carried on in the other Intestines, particularly in the *Jejunum*; and, for this Reason, the Mesentery does not reach to the Duodenum, though all the other small Intestines adhere to it; and because it not only supports, but affords a freer Passage to the lacteal Vessels, the lower and more prominent Part of the Pancreas, together with the Centre of the Mesentery, which is closely connected to the Vertebrae of the Back, rather possesses the Interstice of the Duodenum. The Centre of the Mesentery is that Part of it, to which the Artery is convey'd from the Trunk of the Aorta; and where a remarkable nervous Plexus from the spinal Marrow conveys Nerves to the Mesentery and Intestines; and where a Branch is extended from the Trunk of the *Vena porta* to the Mesentery, on the Right Side.

From what has been said, it evidently appears, that the Duodenum ought more properly to have the Name of a Stomach, than be rank'd among the Number of the Intestines, which serve rather for Secretion than Digestion; and it is still a Question, whether the Business of Digestion be not more effectually carried on in the Duodenum, or succedaneous Stomach, than even in the principal Stomach, where the Aliments undergo a crude, and but imperfect Solution; whereas, in the Duodenum, the Mass of Aliments is farther elaborated, attenuated, and reduced to a more spirituous Nature. In the Stomach there is only a lymphatic Juice, together with the acid Relicts of the Aliments; but in the Duodenum, besides this Juice, there flows another of a penetrating and active Nature, far more rich, of a pinguious, viscid, and tenacious Substance, which attenuates, dissolves, and perfectly incorporates with the alimentary Juices; which is abundantly evident, from the yellow Colour of the Excrements. 'Tis very observable, that there is not any Animal, but what has this Flexure of the Intestine, or little succedaneous Stomach; and that no Animal is without the bilious Juice, which is generated in the Liver, and poured copiously into their Duodenum; which manifestly proves, that Nature has exerted her utmost Skill in fashioning this Part of the Body, so necessary for the Preservation of the Life and Health of Animals.

And as the Duodenum is of the greatest and most extensive Use; so, if it labours under any Defect, if there be not a proper Temperature in the solvent Juices, or if the due Tone of this noble Part be any-ways injur'd or destroy'd, a great Disorder through the whole Economy of the Body must, of consequence, arise, and a long Train of Evils necessarily ensue. My principal Business, therefore, at present shall be, to inquire after what manner many morbid Causes may be generated in this small Stomach, if it happen to be preternaturally affected. *Helmant* and *Sylvius* aver, that the Cause and Sources of most Diseases are discoverable in the Duodenum.

No material Principle of Diseases, which can come under the Denomination of morbid Causes, can be said to reside in the Humours, whilst they continually circulate through the Vessels; for so long as they are conveyed regularly through the Canals, which must prevent their Corruption, they can never sufficiently injure any Part to cause a Disease; but, before the Humours can, in any Degree, be corrupted, change their natural Disposition, and introduce any Disorder in the Body, they must previously be in a State of Rest, and stagnate. Now, there is no Part in the Body more subject to Stagnations and Corruptions of the Humours, and consequently to the Generation of morbid Causes, than those which have a Flexure, such as the Stomach and Duodenum; for the Humours are corrupted, and have their benign innocent Nature changed into the Reverse, first, merely by Stagnation; and, then, degenerate by the Admixture of other heterogeneous Substances.

'Tis most probable, that as all Humours in general, so the Bile in particular, if it be in an inactive State, contracts a malignant and virulent Nature: And hence *Hippocrates de Natur. Human.* says, "That green Bile settling near the Liver, when it effervesces, generates a Corruption in the human Body, and is a pernicious Inmate." By this is meant no more, than that the Bile, stagnating, is corrupted in the Duodenum, and becomes very noxious to our Bodies. There is a Passage in *Lib. de Medic. prisca*, much to the same Purpose, as follows: "When a certain bitter Humour, which we commonly distinguish by the Name of yellow Bile, is diffused through the Body, it brings on great Anxieties, Heat, and

Weakness; but when it is purged off, either spontaneously, or by the means of Medicine, provided this be done soon enough, we are freed from all inordinate Heat and Pain. But if, by its Continuance, it should be highly exalted, crude, unmixed, and intemperate, no Art can allay either the Pains or Fevers thence arising. And, when acrid and acrimonious Bile abound in the Body, Phrensies, and a Gnawing of the Bowels, with great Anxiety, succeed; and these are never cur'd, 'till the Humour is purg'd off, render'd mild, and mix'd with other Humours." From this elegant Passage we see, what violent Disorders are consequent to the Corruption of the Bile.

I shall first treat of the preternatural Stagnation of the Bile, to which not only an Inactivity and Deficiency of salino-sulphureous Particles in it, but also a Disorder in the Tone and peristaltic Motion of this Intestine, in a great measure contribute; for upon any Defect in the peristaltic Motion, the Bile, which continually flows out, being collected in great Quantities in this Part, surprisingly distends the Intestine: Concerning which, there is a remarkable Passage in *Dicmerbroeck, in Anatom. p. 53.* We find, says he, daily, by anatomical Dissections, that this Intestine is sometimes of a remarkable Largeness, which is considerably increas'd by the fermentative, acrid, and peccant Juices, which fall upon it; and hence arise strong fermentative Effervescences, which not only distend it to a great degree, but create also most troublesome Rumbings, violent lancinating Pains, and the greatest Uneasiness in the Persons affected. And we learn from *Miscel. Natur. Curios. Dec. 11. ann. 2. p. 186.* that in a cachectic Patient, the Gall-bladder was utterly void of Bile, but that the Duodenum was full of bilious Humours, and dilated, like a Bag, so much, that it was capable of containing a Pint of Liquor: And upon opening it, more than half of the gross Humour issued out, which was of a yellowish-black Colour; and, for all this, there remained above twelve Spoonfuls therein. It frequently happens, that too large a Collection of Bile in the Duodenum is the Cause of a great many Disorders; for, when the Intestine is much distended, not only the Coats, which are endu'd with an exquisite Sensation, are affected, but the nervous Branches of the mesenteric Plexus are distended, and the Blood-vessels being compress'd, a Congestion of Blood is form'd about the Trunk of the *Vena Porta*, and the Beginning of the meseraic Artery: Hence a fixt Pain about the first Vertebra of the Loins, Uneasiness about the Præcordia, Loss of Appetite, Costiveness, Want of Rest, and Decay of Strength. I have frequently observed these Disorders in weak Persons, in Women whose Menfes were deficient, in hypochondriac People, and after intermittent Fevers preposterously suppress'd; after Errors in point of Diet, but, particularly, after a Fit of Anger: And, in this Case, stomachic Carminatives, Absorbents, and relaxing Medicines, do but little Service; and Anodynes much less, but are rather extremely pernicious. It would be more proper to evacuate the *primæ Viæ* of the biliary stagnating Juices, by administering an Emetic, with proper Caution. This Subject brings to my Remembrance the Case of a Gentleman, of a weak Constitution, who, by a constant Application to the Studies of his Profession, and a sedentary Life, us'd to have a great Quantity of impure Humours collected about the *primæ Viæ*. He, at any time, he had eat too large a Quantity of Aliments, of difficult Digestion, he found himself oppress'd with Anxiety and Heat about the Præcordia, a Pain about the Pit of the Stomach, and Right Side; he would, also, vomit up his Aliment, could sleep but little, and complained of a Lassitude all over his Body; his Skin was ting'd with a yellow, disagreeable Colour, and such Symptoms recur'd pretty frequently. Some Preparations of Rhubarb, mixt with abstergent and aperient Salts, were of considerable Use; but they did not perfect the Cure in less time, commonly, than the Space of three Weeks. The Gentleman laying his Case before me, says *Hoffman*, I soon discover'd, that the principal Cause of his Distemper proceeded from a Stagnation of the bilious Humours in the Duodenum; and, for that Reason, I directed a gentle Emetic, for carrying off the Load of Humours. The Patient, who had not slept the preceding Night, but was tormented with the most violent Symptoms, took, next Morning, a Vomit, consisting of one Grain of emetic Tartar, dissolv'd in Mint-water; and, a little after, he vomited up, into a Basin, a considerable Quantity of gross viscid Bile, of a dark-yellow Colour; and this was succeeded by four Stools. After this Operation, all his Symptoms left him at once, he recover'd his Appetite, and could sleep as well as ever, and had no bad Symptom remaining. We may learn from this single Instance, the great Efficacy and Virtue of an Emetic, in Disorders which proceed from the *primæ Viæ*.

A Stagnation of Bile in the Duodenum creates a Costiveness; for it ought to be observed, that if there be a Defect of the peristaltic Motion in the first Intestine, the other Intestines must suffer also; so that the Progress of the Faeces, through the Intestines, will be retarded. This is confirmed by an Observation in *Miscell. Nat. Cur.* above quoted. Besides, the Bile remaining

remaining in the Duodenum, together with the pancreatic Juice, and the Mucus of the Aliments, excites Flatulencies, which create Pains and Uneasiness in the Lanes, not unlike those of a nephritic Colic. *Pechlinus's* 57th Observation is a Confirmation of this: "That Part of the small Intestines, says he, " rising obliquely towards the Spleen, and being thence reflected " in a more acute Angle, by the very Nature of its Situation " must cause every thing, that is too viscid, to remain the longer " in that Part, whether it be Phlegm, pancreatic Lymph, " Bile, or even Flatulencies." Women are in more Danger of contracting such Disorders in this Part, on account of lacing their Stays too tight; and if they eat immoderate Quantities of Summer Fruits, this affords abundant Matter for flatulent Crudities, and Fermentations; for the Juices being in a violent Effervescence, they require greater Room than usual, to expand themselves freely: And therefore, when the Hypochondria, which ought to be dilated, are compressed, the Juices and Flatulencies must fix there, and lay a Foundation for new Corruptions and Fermentations. After the same manner, from a Distention of the Duodenum by Flatulencies, there frequently arises a fixed chronical Pain in the Loins, as *Sylvius* observed in his Days; who imagined, that this Pain, which seems to pierce, as it were, the Loins, was seated in that Part where the Bile and pancreatic Juice meet together. It is well known, that febrile Paroxysms generally begin with a fixed Pain of the Loins, in that Part where the Centre of the Mifentery is connected to the Vertebrae of the Back; and as the Duodenum likewise adheres to it, by the Intervention of strong Membranes, it is no Wonder, that a violent Expansion of these Membranes, which are possessed of an exquisite Sensation, should stimulate the adjoining Plexus of Nerves to Spasms. Both Solids and Liquids stagnate in the Stomach and Duodenum, upon a spasmodic Contraction of the latter, which obstructs the Passage to the other Intestines. We know by daily Experience, that solid and liquid Aliments are discharged in great Quantities, even three Days after they are received into the Stomach; and that drunken Persons frequently evacuate a surprising Quantity of Fluids twelve Hours after their Reception. Thus *Helmont, Lib. de Febr. C. 10.* says, that "If the Pylorus be too much contracted, Drink " will sometimes remain in it for the Space of three Days; " and more will be thrown up at one single Vomit, than was " drank for two Days before." It is owing to these spasmodic Contractions, that not only corrupted Humours, but Flatulencies also, subsist in hypochondriac and hysteric Persons; and hence it is, that in the Paroxysms of a Fever, Anxieties, Restlessness, Oppression of the Spirits, and Pains about the Pit of the Stomach and Loins, a Nausea and Vomiting, are produced. This Contraction of the Duodenum very frequently brings on a Jaundice; for, when its Coats are too strongly contracted, the *Ductus Choladochus*, which passes obliquely, about the Length of a little Finger, through these Coats, is straitened and compressed, so that the Bile cannot easily descend to the Duodenum: Hence it is, that the Bile, stagnating both in the biliary Ducts and Gall-bladder, not only occasions Pains and Spasms, but, by returning to the Blood through the lymphatic Vessels, over-spreads the Skin with an unseemly yellow Colour.

There are many other Diseases, which proceed from this Intemperature and Corruption of the Bile and Juices concurring in the Duodenum, such as all intermitting, continual, tertian, choleric, slow, and burning Fevers, Small-pox, Measles, Diarrhoeas, Dysenteries, Heart-burns, violent chronical Coughs, Gouts, wandering Pains, and many others of a like Nature. The Humours in this Part are not only corrupted by Stagnation but also by their being mixed with other impure excrementitious Juices, which flow too copiously to the Bile and Juices there lodged, either from the Stomach, or Mass of Blood. It also frequently happens, that when acid, corrosive, and saline Humours, which are generated in the Stomach, either by Aliments of the like Qualities, or by continuing too long there, descend to the Duodenum, and are there mixed with the Bile, they surprisingly corrupt and contaminate the bilious balsamic Humour: And the Bile, being mixed with such an Acid, is not only coagulated, and rendered corrosive, but also changes its natural Colour, and assumes a green æruginous Tincture. Whilst such a Humour resides in the Duodenum, it corrodes and vellicates the adjoining Parts, and excites Gripes, spasmodic Contractions, and violent Pains, both in the Stomach, and the more sensible Intestines; and easily creates Convulsions and Epilepsies in Children. If, therefore, the Excrements in such Distempers be green, it is a very bad Sign; for in that Case they are sometimes of such an acrimonious Nature, as to corrode a Piece of Linen. From the same æruginous stagnating Bile arise Coughs of various Kinds, and that not only in Children, but also in Adults; and these Coughs are frequently attended with intermitting Fevers, and hypochondriac Disorders, in which Case all sweet and pectoral Medicines do more Harm than Good; and it is to be observed, that such Coughs generally recur both Day and Night at stated Periods; for the Juice of the Aliments, mixing with this corrosive Acid, in some measure lessens the Vellication of the subjacent Parts; but when the alimentary Juice

recedes, and is conveyed to other Parts, the corrosive Humour, still remaining, resumes its former Force, and seizes upon the tender Membranes of the Duodenum, at that time distorted by Flatulencies: And Disorders in these affect by Consent the Diaphragm, the Mesenteric, stomachic and pulmonary Plexuses, and excite a violent Cough, which is sometimes attended with severe Vomiting, and Danger of Suffocation, occasioned by the Afflux of the viscid Serum upon the Bronchia of the Lungs. These violent Coughs I have, in a short time, very happily cured by a compound Powder of Crabs Claws, with the Addition of the Oil of Anise; giving one Dram for a Dose twice a Day. To Children under this Distemper I prescribed gentle Emetics, and an Infusion of Rhubarb with Manna, which are of singular Service in carrying off these viscido-bilious Collections of Humours.

When this caustic Bile is resolved into Flatulencies, it produces violent Disorders in the Parts of the Body. *Riverius, Cent. 2. Obs. 8.* mentions a remarkable Case of this sort. The Patient was every Night afflicted with a severe Pain, which began in his Left Side, and extended to the anterior and posterior Part of the Thorax, to the Left Side, and the Scapulas, with such Violence, that he could not obtain Ease in any Posture: These Pains continued till Morning, and then they were removed, and did not recur the whole Day. *Riverius* justly determines, that this Effect was produced by Flatulencies generated during Sleep, by the intense Heat of the Body, and the Collection of peccant and crude Humours lodged in the Primæ Viæ, in consequence of his irregular Method of living. And I have frequently observed, plethoric Persons, who eat too liberally, wake out of their Sleep at certain Hours after the Digestion of the Aliments, with a great Uneasiness. Shortness of Breath, and Danger of being suffocated; to whom Bleeding, Vomiting, and abstaining from Suppers, have afforded immediate Relief. Sometimes the Effects of these peccant Humours stagnating in the Duodenum, and the first Intestines, extend to the Head, and produce Head-achs, Vertigos, and a Torpor of the Senses, and sometimes apoplectic Fits. *Borelli, Cent. 2. Obs. 1.* says, that Bile, which, when vomited up, bubbled up like Aqua-fortis, was the Cause of a Hemiplegia. "A certain Person, says he, in " a tertian Fever, was tormented with an excessive lancinating " Pain, affecting one Half of his Head, who, on taking a " Vomit, threw up a Pint of green Bile; and, discharging the " like Quantity at the next Paroxysm, he found himself freed " from all his Pains." See *Riverius, Cent. 1. Obs. 27.* I know a Gentleman, who, a few Days after letting Blood, indulged himself in drinking Wine too liberally, and eating Oysters, and other Aliments of difficult Digestion: Afterwards he began to languish, and grow dull; and, his Appetite failing by degrees, he was seized at Table, on a sudden, with a great Heat above the Præcordia, which was followed by a vehement Cold, and Fainting; and all his Senses seemed to be extinguished. By the Injection of a Clyster he had six Stools, which gave him no small Relief; and, a few Days after, he was able to walk abroad; but soon after, being at an Entertainment, he was seized with the same Distemper, though not in so violent a Degree. At last I discovered, says *Hoffman*, the Cause of his Distemper; and gave him a gentle Emetic, which made him throw up great Quantities of viscid Matter, and green Bile. This was the Source of his Disorder; for he immediately recovered. And it is not to be doubted, but all these Disorders arose from a porraceous Bile, which irritated the Orifices of the Stomach.

The Cause of a Vertigo, a troublesome Disorder, frequently also resides in the Duodenum; and hence it is, that it seizes with a Nausea, and a bitter Taste in the Mouth, when the Stomach is empty; and is somewhat mitigated after eating. *Galen* takes notice of an Epilepsy proceeding from a Disorder of the Stomach, and conjectures that it may be owing to Bile lodged in the Duodenum. I have had, in the Course of my Practice, says *Hoffman*, a remarkable Instance of a Distemper, which proceeded from the same Cause: A Saxon Count, having retired hither, on account of the Troubles of the State, consulted me about a violent Disorder, which had afflicted him for near a Year. He, by long Grief, Errors in point of Diet, and a sedentary Life, had contracted a cacoehymico-plethoric Habit of Body; and he found himself every Night, about Three or Four of the Clock, seized with most violent Pains, which began about his Navel, and, passing along his Back, at last affected the Præcordia with such Violence, that he was in danger of being suffocated: He was seized also with the greatest Anxiety, and frequently with epileptic Contractions, and a Dulness of his Senses; which Symptoms were always aggravated, whenever he was costive. Carminative and gently laxative Clysters, and a Vomit, afforded him considerable Relief; but could not remove the Distemper, which was too deeply rooted. We learn from *Helmont*, as well as from daily Experience, that an Apoplexy is frequently generated in the Stomach and Duodenum; for he tells us, in the Book he wrote to prove, that all Diseases proceeded from the sensitive Soul, that he frequently cured a recent Apoplexy by the Exhibition of a Vomit, and Aromatics. This is confirmed by *Wedelius, in*

Pathologia Dogmatica; who tells us, that by such Remedies he restored a Tiler of *Jena*, who was seized with an Apoplexy, to perfect Health. And we know by Experience, that Persons who have a Redundance of Blood, are frequently seized with an apoplectic Fit about the Equinoxes, at Full-moons, and in the Winter-time, after a Fit of Anger or Intemperance; and that it is either preceded or attended by Efforts to vomit, whilst what is this Way discharged, is tinged with a black and disagreeable Colour.

From such Collections of Humours residing in the Stomach and Duodenum, arise many other very severe Distempers, among which we may reckon slow Fevers, which are generated of intermitting and acute Fevers; for when they are suddenly checked by Astringents, among the Number of which is the Peruvian Bark, before the *Primæ Viæ* are first unloaded, the sordid Collection of Humours lodged in the Stomach may easily become the Source of more violent Distempers. The like Effects may be produced by eating too large a Quantity of Aliments, immediately after any chronical or acute Disease, where the Stomach, in consequence of the Violence of the Distemper, is too weak for the Digestion thereof. Among the Number of such Disorders we may reckon, as I have said, slow Fevers, which seize the Patient with the following Symptoms; a slow Heat of the Body, with a quick and frequent Pulse, a Lassitude, nocturnal Sweats, Faintness, and Emaciation. When, therefore, we have discovered the Source of this Disorder, we may easily perceive, that refrigerating Remedies are no ways suitable to such a Case, but do more Injury than Good: We ought rather to attempt the Cure with abstergent Salts, and gentle Emetics, relaxing and bitter Medicines, which in this Case seem to promise the most certain Relief to the Patient.

I have already shewn, that the Bile, by stagnating, and mixing with acid Humours, may become the Occasion of many violent Distempers; and, in pursuance of my Design, I shall now inquire, after what Manner its natural Texture and Temperature may be disordered and corrupted by the Admixture of other Particles; and I am inclined to think, that this is principally effected by a Suppression of other Excretions, particularly Transpiration. It is evident, of how much Importance to the Preservation of Life and Health, this Evacuation of Humours through the Pores of the Skin is; which is justly esteemed the Emunctory of the whole Body, and of the Blood: For all things, which are either superfluous or injurious, are exhaled and perspire through the Pores, and are expelled, as Sordes, out of the Limits of the vital Circulation of the Blood: Of this Sort is that salino-sulphureous and subtle æreo-aqueous Principle, which, being retained in the Body, easily corrupts and vitiates the Blood, which is the Fountain of Life. Hence many dangerous Diseases, especially Fevers of all Kinds, and Distempers which are attended with critical Eruptions. But, in order to account for this, we may observe in general, that the Humours of our Bodies are injured by an Obstruction of the Excretions, and particularly of Perspiration; for when the acrimonious Sordes do not find a Passage, on account of an Obstruction of the Pores, they return to the Lymph and Bile, which, on that account, assume a quite different Nature; and, being thus vitiated, when it falls into the Intestines, and happens not to be evacuated in due time, but stagnates and continues long there, it changes its very Nature, and becomes a Seminary of Diseases, especially of Fevers. Wherefore it is not without Reason I assert, that the Seeds of periodical Diseases, particularly of Fevers, reside in the Duodenum: And in this the two eminent Physicians *Sylvius* and *Helmont* are on my Side. The former everywhere, throughout his Writings, alligns the Duodenum as the Seat of many Diseases; and the latter, *Lib. de Febr. Cap. 17.* expressly affirms the same. “A Fever, says he, is caused by “a virulent Humour, which is lodged about the Pylorus, and “a little below it.” And, *Cap. 10. N. 3.* he says, “that “the Seat of Fevers is in the *Primæ Viæ*, and extends from “the Pylorus to the Duodenum.” *Fernelius* is of the same Opinion; who, *L. 6. C. 7.* assures us, “that the Seat of “intermitting Fevers is about the Stomach, the Duodenum, “and Pancreas.”

The Seat, therefore, of these Fevers is justly determined to be in the Duodenum, since they proceed from a corrupted Lymph and Bile; and they are generally produced by a Suppression of Transpiration, a Plethora, a Weakness of the Stomach and Intestines, occasioned by Intemperance; all which greatly promote this Corruption: For, if the Sordes be not carried off by Perspiration, they communicate an Infection to the Bile, by mixing with it; and if the Tone of the Stomach be disordered, and Nature not strong enough to discharge it by Stool, it must be detain'd in the Intestines; and, when it is corrupted, and continues long there, it not only exercises its Tyranny in that Region, but, being conveyed to the Blood, opens a new Scene of Evils, by racking the membranous and nervous Parts of the Body with Spasms and Pains.

I have affirmed above, that the Seat of intermitting Fevers, especially those of the tertian Kind, was in the Stomach and Duodenum; which is confirm'd by the Symptoms that appear

both in the Beginning and Progress of these Disorders; for, in the Beginning of them, the Patient is troubled with Flatulencies, and a Hardness of the Abdomen, a Nausea, and fixed Pain in the Back, and an Anxiety and Uneasiness about the *Præcordia*: Soon after, the Coldness goes off, a Vomiting ensues, the Colour of the Face turns yellow, and the Body burns with excessive Heat; the Patient is tormented with a Thirst, that no Liquor can quench; his Urine is high-colour'd; and the Stools procur'd by Cathartics are very yellow; bilious, and sometimes viscid, Matter is discharged by Vomit; and a bilious Diarrhoea not unfrequently succeeds the Exhibition of the *Peruvian Bark*, especially if the Duodenum happens to be turgid with a Redundance of Bile. The true Reason of this is, that the Bark, restoring the disorder'd Tone of the Intestines, increases their peristaltic Motion; whence they are enabled to discharge the contained Sordes. When the Bile returns to the Blood, from whence it had been before secreted, a Jaundice sometimes accompanies the Fever. All these Symptoms, however violent in intermitting Fevers, are much more so in continued Tertians, and, most of all, in those burning Fevers which the *Greeks* call'd *Causi*; because the abundant Quantity of acrid Bile stimulates the respective Parts; and, therefore, all Medicines which destroy the Acrimony of the Bile, and render its stimulating Force less active, and which carry off the Sordes from the *Primæ Viæ*, are the most powerful Remedies in such Distempers; such are, gentle Emetics, nitrous, saline, and absorbent Medicines, which have justly acquir'd great Reputation for the Cure of these Disorders: And, indeed, these Remedies ought always to be made use of in Distempers of this Kind; though they are not so efficacious, when the intermitting Fevers are extremely obstinate; for Example, in a Quartan; for, in these Cases, the Disease is sometimes too stubborn to yield to the Remedies above-specified; a plain Indication, that it is too deeply rooted, and that the Cause lies more remote, even in some of the Viscera. And it is no less evident, that the Pancreas, Liver, and Spleen, when labouring under Obstructions, must continually supply the Intestines with a corrupted Bile, and pancreatic Juice, and, consequently, furnish fresh Supplies for the Distemper. And, therefore, when Cases of this Kind occur, it will be proper to administer stronger Medicines than the above-mentioned; such as strong Aperients, Salts, and Preparations of Rhubarb, Steel, and Mercurius Dulcis. Neither will it be improper to exhibit Emetics, as they frequently penetrate to the very Viscera, and expel the Sordes retained in them. The Powder invented by *Riverius*, that successful Practitioner, may be of great Use here, as it operates both by Stool and Vomit; and the Inventor assures us, that he has carried off a Quartan above a hundred times by the means of it, as may be seen in his Observations. Intermitting Fevers, which, about the third Day, are exasperated, require the same Cure, as they in like manner arise from acrimonious corrupted Bile, as *Thomnerus*, *L. 1. Obs. 1. p. 10.* remarks.

Riverius declines giving us the Method of preparing the celebrated Febrifuge above-mention'd, unless we can guess at its Composition from the following obscure Description: “This precious Remedy, says he, is composed of a triple “*Hercules*, [perhaps Gold, Antimony, and Mercury] by “twelve Operations, [perhaps Distillations] raised to the “highest Degree of Perfection. To these three *Herculeses* “there is added a fourth Champion, [perhaps Spirit of Wine] “which renders the Remedy complete and perfect.” This Medicine may be given to Children, from ten or twelve, to fifteen Grains; and to Persons farther advanced in Years, from twenty to thirty or forty Grains. It operates in a mild and easy Manner, when exhibited in a due Dose; nor does it produce any greater Commotions than the common Medicines, or the Compositions of Sena and Rhubarb. Sometimes it operates by Vomit, if any Part of the morbid Matter is lodg'd about the Stomach; for it has this Advantage peculiar to itself, that it goes directly to the morbid Matter, where-ever it is lodg'd, attacks it with Vigour, and persists in the Encounter, till it has subdued it. In some Cases, where it finds the Passages open, and no great Quantity of morbid Matter, it performs its Business without any Trouble, and with a very inconsiderable Evacuation. But, in other Instances, where the Patients have used no Remedies through the whole Course of the Disorder, where the Body is stuffed with the Juices of peccant Aliments, where the Quantity of noxious Humours is large, where the Obstructions are obstinate, or the Crudities great, it does not surmount the Disease, without exciting considerable Commotions, and creating some Uneasiness to the Patients; as happened to some poor and vulgar Persons, on whom the first Experiments, for investigating the Virtues of this Remedy, were made.

But *Hartman*, that celebrated German Chymist, *Rosfinkius*, and several others, have been more explicit, and given us full Directions for the Preparation of this specific Febrifuge. They direct the Process to be perform'd in the following Manner:

Take of the purest and best refin'd Gold, half an Ounce ; reduce it into small Portions ; and, in the ordinary Manner, dissolve it in *Aqua Regia*, prepared with common Salt ; but not with Sal Ammoniac, because that Species of Salt renders Mercury volatile ; of the Glass of Antimony half an Ounce ; and of well purified Mercury, three Ounces : Dissolve each separately, and in different Glasses, by means of *Aqua-fortis*, in such a manner, that the Solutions may be sufficiently clear and transparent. Mix all these Waters together, and draw off the Waters by Distillation. Add a fresh Quantity of *Aqua Regia*, and draw it off frequently, till the Precipitate, when placed upon a red-hot Iron, sends forth no Fume at all. When this is obtain'd, calcine the whole Precipitate, carefully cover'd with a Tile ; by which means, all the Spirits of the *Aqua Regia* are exploded and dissipated. Then, from this Precipitate, distil Spirit of Wine, six times, till the Mercury is in some measure fixed. Then the Mercury is to be ignited, and slowly calcin'd, cover'd with a Tile. *Riverii Observat. Cent. 3.*

Having consider'd the Nature of Fevers, we now proceed to the Consideration of those Diseases, which are attended with Eruptions : And the first of this Kind I shall mention, is the purple Fever, a kind of Distemper little known in other Parts of the World ; but which is very frequent in these Parts (*Saxony*). It is generally observed to accompany other Diseases, especially when they are upon the Turn ; the Reason of which is, that the Intestines being dry'd by the preceding Heat of the Fever, and, in consequence of this, a Costiveness succeeding, the corrupt bilious Matter, in the *Primæ Viæ*, cannot be so well corrected ; and, when it is not discharged by Medicines, it must mix with the Blood, and occasion the Distemper we are treating of. And what makes this the more probable is, that a *Purpura* frequently happens, when the Belly is for any considerable time costive, and is not rendered soluble by Clysters, and gentle Laxatives. This Distemper also frequently seizes Infants, together with a Vomiting, *Diarrhoea*, a Fever, Cough, and difficult Dentition ; and, besides, it is also attended with an immoderate Thirst, an Anxiety about the *Præcordia*, and want of Sleep : Persons who are accustomed to bleed frequently, if they neglect it for a considerable time, are very subject to this Disorder ; and it is principally carried off by purging ; and, therefore, Care ought to be taken to keep the Body in a soluble State. Some, under this Disease, sweat much in the Night ; others in the Morning ; and others there are again, who every Year are subject to a chronical *Purpura*, and have evident Symptoms of a Disorder in the Liver and Bile. In such Cases, 'tis most proper to begin the Cure by Emetics, and gentle Laxatives, which cannot fail to be of singular Service, since this Distemper frequently proceeds from a Stagnation of acrid Bile. *Borelli, Cent. 2. Obs. 36.* has observed, that perpetual Sweats, attended with an Itching, have been carried off by a like Method of Cure, and the Exhibition of a Vomit, if the Patient abstains from Wine. The Gout also seems to have its Residence in this Source of chronical Diseases. Men of a weak Constitution, who have a sort of hereditary lax and soft Texture of the Membranes, and hypochondriacal Persons, are most subject to arthritic Pains, especially in the Spring and Autumn ; because, in these Seasons, on account of the Inequality and variable State of the Air, Perspiration is most subject to be obstructed ; and, consequently, the tartareous Salts, which abound in such Constitutions, are more slowly carried off by Urine. And, therefore, when these Salts have not a free Passage, they are conveyed to the salival, bilious, and pancreatic Humours, and affect the *Primæ Viæ* with various Disorders ; such as Flatulencies, Pains about the *Præcordia*, Costiveness, a wandering Pain about the Loins, accompanied, at the same time, with a febrile Commotion. That the Cause of the Disorder resides in the *Primæ Viæ*, is evident from hence ; that if you administer a gentle Emetic, about the Approach of the Disorder, if it does not entirely suppress, it will surprisingly alleviate it. *Martianus*, in his Comments on *Hippocrates*, says, that he has known Persons seiz'd with arthritic Pains, from peccant Acrimony in the Stomach, who, upon vomiting up acid Humours, have been either entirely delivered, or, in a great measure, relieved from the same. And this is confirm'd by *Sylvius*, who informs us, that a Vomit is the most proper Remedy for a Gout ; and that he has known it succeed in many Instances in the Course of his Practice. He also assures us, that he has seen a Vomit not only prevent an impending Paroxysm, but also to destroy so far the Seeds of the Distemper, as to prevent a fresh Attack. *Hildanus* is of the same Opinion, *Cent. 6. Obs. 84.* where we read of a Vomit's removing all the Pain of a Gout, if it be administered at the Beginning of the Paroxysm : And I myself, says *Hoffman*, have observed, in my Notes on *Potterius*, that the Exhibition of a Vomit, at the Beginning, has mitigated the Violence of the Pain ; and, being repeated the Day after,

had the same Effect. *Alpinus, in Medicina Egyptiorum*, says, that he has observed many Persons, rack'd with Gout and Stone, who have procur'd great Relief from the frequent Use of Vomits.

Many violent Disorders frequently arise from the Passion of Anger, for no other Reason, but because the Bile, being pour'd in great Quantities from the biliary Ducts, into the Duodenum, affects the Membranes and nervous System ; for if there be a Redundance of Bile in the Body ; but, at the same time, no Evacuation of it, either by Vomit or Stool, it must necessarily create a Bitterness in the Mouth, a Nausea and Inclination to vomit, with many other Disorders ; and the best Remedies for such are Absorbents, and Preparations of Rhubarb, gentle Laxatives, and Emetics ; but we must carefully avoid all spirituous volatile Salts, and warming Infusions.

The Causes of the Erysipelas, Small-pox, Hæmorrhages, Aphthæ, Diarrhoeas, hypochondriac and hysteric Disorders, as also malignant and petechial Fevers, in like manner reside in the Duodenum ; since they arise from Bile, and a Stagnation of putrid Lymph lodg'd therein. And hence the practical Maxim, *That we ought principally to regard the Primæ Viæ.* But I have already treated this Subject at large under the Article BILIS, which see : I shall therefore supersede any further Explanation of it.

As to Practice, and the Method of curing these Diseases, which are seated in the Duodenum ; from what has been said, it is evident, that Emetics, carefully prepared, and prudently exhibited, afford the most certain, and, perhaps, the only Relief, in such Disorders : They are generous and important Remedies, and excel in Virtue all other Medicines ; and, if a Physician would perform any remarkable Cure, he will find his Design best answer'd by Emetics : For sometimes a severe Disease is carried off, at the Beginning, by one single Vomit ; and he that neither makes use of Emetics, nor knows how to exhibit them justly, in my Opinion, is quite ignorant of true Practice. For, when impure Humours abound in the Stomach and Duodenum, Emetics are absolutely necessary, for speedily evacuating the peccant Matter at the Beginning ; because it is dangerous to carry it off through the long Canal of the Intestines by Stool ; for thus it will be more likely to pass into the Mass of Blood : And it is particularly worthy of Observation, that most Purgatives neither move, nor propel, the stagnating Matter in the Stomach and Duodenum, but rather operate upon the small Intestines. Anatomy manifests the Reason of this ; for 'tis well known, that the Stomach and Duodenum are furnished with a glandulous Coat, under which lies the nervous Coat. For this Reason, the Spicula of the Cathartics cannot so effectually penetrate and stimulate the nervous Coat, as Emetics, which are of a far more penetrating and subtil Nature. Liquid Emetics are always preferable to solid, as they do not adhere to any one Part of the Stomach, but are diffused equally on all Sides, and operate more easily, and with less Trouble to the Patient. In the next Place, with regard to the Diseases which are seated in the Duodenum and Intestines, I would recommend all such Medicines as rectify and strengthen the Tone, and preserve the peristaltic Motion, and, by these means, promote the Expulsion of the Faeces, and, consequently, render the Body more soluble. To this Class belong deterfive Salts, such as Arcanum Duplicatum, Terra Foliated Tartari ; as also bitter Medicines, mix'd with Gums and Resins of the temperate Kind, Preparations of Rhubarb, Amber, Myrrh, and Aloes.

Whoever attempts to cure chronical Distempers, and such as are seated in the *Primæ Viæ*, ought principally to regard the peristaltic Motion of the Intestines ; the good State of which is known by the regular Discharge of Stools : And, when this is the Case, all Disorders are the more easily subdued. As to the Cure of Diseases which arise from the Duodenum, absorbent and precipitating Medicines, which destroy the Acrimony of the Humours, are the most effectual : If the Bile be too hot, acrid, and volatile, nitrous Medicines, which correct it, afford the greatest Relief : And, if it should be viscid and unactive, it ought to be rectified by bitter balsamic Elixirs.

Lastly, with regard to the Cure of such Disorders as arise from a Collection of many impure Humours in the *Primæ Viæ*, we are to consider, that Sudorifics, hot Medicines, and volatile Salts, are not so proper ; since they not only attenuate the peccant Matter, but also convey it to the Mass of Blood and Humours, which may be of dangerous Consequence ; whereas it ought rather to be carried off by Stool or Vomit. I am much pleas'd with a Passage in *Sylvius, Prax. Med. 145.* in the following Words : " Whenever there is a Redundance of impure Humours in the *Primæ Viæ*, we ought not to exhibit Sudorifics ; because Sweat cannot be excited without a Commotion of the whole Blood, which, being at that time more fluid than usual, must, of consequence, convey through the whole Body every Impurity, sooner, and in larger Quantities." 'Tis a great Mistake, to exhibit Medicines of a hot Nature, and especially Sudorifics, before the *Primæ Viæ* are clear'd ; and, when they are fill'd with impure Humours,

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Humours, 'tis as improper to administer Anodynes; because they retain the offending Matter, which ought to be evacuated. But should this peccant Matter incorporate with the Blood, as happens in an Erysipelas, the Small-pox, and Gout; in that Case we must use great Caution in administering Emetics; because, by inviting the Matter from the Extremities to the Viscera, they may possibly excite Convulsions, and other violent Distempers: And, therefore, we ought, in such Cases, to make use of gentle Abstersives and Clysters, and exhibit Emetics rather at the Beginning of the Disease, and when the Patient is not under an immediate Paroxysm. *Frederic Hoffman.*

DUPONDIIUM, *διπώνδιον*. A Weight equal to four Drams. *Castellus from Galen.*

DURA MATER, or *Meninx*. The Name of the thick external Membrane, which covers the Brain. See **CAPUT**.

DURACENA. An Epithet for a particular Sort of Peaches, which adhere strongly to the Stone. *Castellus from Langius.*

DURATUS, harden'd, properly; but used in *Scribonius Largus*, *Comp.* 35. to express, macerated.

DURDALES, certain imaginary Spirits, which *Paracelsus* fancied to reside in Trees.

DURIO. The Name of a very large Tree, which grows in the *East Indies*, and bears a Fruit as big as a Melon.

The Fruit, to those who never tasted it, smells at first like putrid Onions; but, after it has been once eaten, recommends itself before all other Food, both for Smell and Savour; and is in such high Esteem with those who indulge their Appetites, that they believe it impossible for any Person to be satisfied with it: And yet so great is the Plenty of this Fruit in *Malacca*, that they are sold for no more than four Maravedis apiece, especially in the Months of *June, July, and August*; for in the other Months they raise their Price at Pleasure.

The Antipathy between this Fruit and Betle is very surprising, being so great, that if you carry a few Leaves of Betle into a Ship, full of the Fruit of the *Durio*, or into a House, or a Chamber, where they are kept, they will every one be corrupted and putrefy; and if any one has his Stomach inflamed, or oppressed with immoderate eating the Fruit, the Inflammation is mitigated, and the Tumor removed, by only applying a Leaf of the Betle to the Stomach; and if, after eating the Fruit, you swallow some Leaves of the Betle, you will sustain no Injury, though you eat never so much of the Fruit. *Raii Hist. Plant.* p. 1652.

DYAHIBALA. A Name for the Mimosa; non spinosa; major; *Zeilanica*.

DYNAMIS, *δύναμις*, from *δύναμαι*, to be able, is the Faculty or Power from whence an Action proceeds. Hence *Galen*, *Lib. de Plenitud.* defines it *δραστικήν αἰτίαν ἢ οὐσίαν*, "an efficient Cause or Substance;" and says, it is no Difference, whether you call it *ποικίλην*, or *δραστικήν, αἰτίαν*, or *οὐσίαν*. The same Author describes *τῆς δυνάμεως οὐσίαν*, "the Substance" or Essence of the Faculty," to be the Quality of the Temperament of any compound Substance, which consists in the due Temperament of each of its Parts. *Δυνάμεις*, in *Hippocrates*, *περὶ ἀρχ. ἰητρ.* are the prevailing Qualities and Forces of the Humours. The Word *δύναμις* is frequently used by *Galen* for a Preparation or Composition of a Medicine, sometimes particularly of an approved Medicine. Thus *Plutarch*, in *Sympos.* makes mention *τῆς ἀλίου δυνάμεως*, "a Medicine of approved Virtue against Hunger," used by *Epimenides*. *Positivus.*

DYOTA, or rather **DIOTA**. A Pelican, or circulating Vessel, with two Ears, resembling in Shape a Man standing with his Arms a-kembo.

DYSALTHES, from *δύς*, importing Difficulty, and *ἄλθω*, to cure. Difficult of Cure.

DYSANAGOGOS, *δυσανάγωγος*, an Epithet for tough viscid Matter, which is expectorated with Difficulty.

DYSAESTHESIA, *δυσαισθησία*, from *δύς*, importing Difficulty, and *αἰσθάνομαι*, to feel, or perceive. A Dulness or Difficulty of Sensation.

DYSARISTESIS, *δυσαισθησις*, from *δύς*, and *ἀρίσχω*, to please. A Moroseness which frequently precedes acute Distempers, and Melancholy. *Actius*, *Tetrabib.* 2. *Serm.* 1. *C.* 5. *Galen.*

DYSCINESIA, *δυσκίνησις*, from *δύς*, and *κινῶ*, to move. Difficulty of Motion.

DYSCRASIA, *δυσκρασία*, from *δύς*, importing bad, and *κράνωμι*, to mix. Dyscrasy, Intemperature. Such a Mixture of the Fluids in the Body, as is inconsistent with Health.

DYSCRITOS, *δύσκριτος*, from *δύς*, importing Difficulty, and *κρίσις*, a Crisis. Difficult to be brought to a Crisis, or brought to an imperfect or bad Crisis.

DYSECOIA, *δυσήκοια*, from *δύς*, importing Difficulty, and *αἰκνῶ*, to hear. Deafness, or Difficulty of Hearing.

DYSELGES, *δυσέλγης*, from *δύς*, difficult, and *ἔλκος*, an Ulcer. An Epithet for such Persons, whose Ulcers are difficult to cure.

DYSENTERIA, *δυσεντερία*, from *δύς*, importing Difficulty, and *έντερια*, the Intestines, is defin'd a Difficulty, or a Disturbance,

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of the Functions of the Intestines, attended with an Exulceration. A Dysentery, according to *Galen*, *Lib. 6. de Locis affect.* is properly call'd *ἐλκωσις έντέρων*, "an Exulceration of the Intestines," attended in the Beginning with an Excretion of a biting bilious Humour; afterwards, of Abrasions of the Intestines; and, at last, Blood in moderate Quantities is voided; which latter Case only, as he informs us, *Lib. 5. de Sympt. Causis*, is by some taken for the proper Dysentery. An Exulceration of the Intestines, according to the same Author, *Com. ad Aph.* 3. *Lib. 6.* is, when there happens first an Abrasion of the outer Superficies of those Parts, and, in Length of Time, a deeper and ulcerous Putrefaction. The Author of the *Definitiones Medicæ* defines a Dysentery to be an Exulceration of the Intestines, attended with an Inflammation, and an Excretion of bloody, seculent, and sometimes strigentitious Sordes, and a Pain and biting Sensation of the Belly and Intestines. *Hippocrates*, *Lib. περὶ πᾶθῶν*, says, that a Dysentery is attended with Pain and Gripes in all Parts of the Belly, and Excretions of Bile, Phlegm, and adust Blood. In another Place of the same Book he tells us, that this Disease arises from a Settlement of Bile and Phlegm in the Veins and Belly. The Blood is disorder'd, and deposits its corrupted Part; the Intestine also is affected, and is abraded and exulcerated. The Disease is long, painful, and mortal; and, if the Patient be of a robust Constitution, there is room to expect a Cure; but when there is a Colliquation, and total Exulceration of the Belly, there are no Hopes of Life. Again, *Lib. 3. περὶ διαίτης*, when the Body is heated, he says, and there is an acrimonious Purgation, with an Abrasion and Exulceration of the Intestines, and bloody Stools, the Disease is call'd a Dysentery, and is a severe and dangerous Disorder. The Word *δυσεντερία*, in *Hippocrates*, sometimes also signifies bloody Excretions, or a bloody Flux of the Belly, without an Exulceration of the Intestines, as *Aph.* 65. *Lib. 5.* according to *Galen's* Exposition of the Place. And this Kind of Dysentery, *Lib. 2. Epid.* he expressly calls *δυσεντερία ένερθρὴν*, "the red Dysentery;" where the same Aphorism is repeated. Agreeably hereto, *Galen*, in his Comment on *Lib. 3. Epid.* explains *δυσεντερία δὲ πᾶθῶν*, by bloody Dysenteries; and informs us, that there are two Kinds of Dysentery, one from an Ulceration of the corroded Intestines; another, consisting in an Evacuation of much Blood, proceeding from the Veins of the Intestines. Again, in his Comment on *Lib. de Artic.* he tells us, that *Hippocrates* seems not to use the Term *δυσεντερία*, [in that Place] as the Generality of Physicians do, for an Exulceration of the Intestines, but for Excretions of Blood by Stool. *Hippocrates*, *Lib. 2. Epid. Sect. 6.* seems to use *δυσεντερία*, in a general Sense, for any Flux of the Belly whatsoever.

OBSERVATION I.

At a certain Season, when a Dysentery happened to be epidemical at *Amsterdam*, a Woman of about forty Years of Age, and of a corpulent and good Habit of Body, had the Misfortune to be seized with the reigning Disorder, under which she labour'd for three Weeks. In the first Stage of the Disease, her Excrements were black; but, in Process of Time, assuming a reddish Colour, they were at last mixed with a whitish kind of Substance. Her Belly was in Pain in various Manners; for the Pain was either fix'd at her Navel, in which Case her Belly was depressed; or, if her Belly was elevated, the Pain, like a Girdle applied, affected the whole Region of the Navel. She was tormented with an intolerable Thirst, which she endeavoured to satiate with any Liquor she pleased, using at the same time large Quantities of Brandy. She could not be prevailed upon to take any Medicines, except an alterative Decoction, and the *Amsterdam Pilule de Laudano*; by the Use of which, her Pain was alleviated, and Sleep, to which she was otherwise a Stranger, procured. When she went to Stool, she felt a very considerable Pain about her *Anus*. She was several times purged during the Course of the Disease; sometimes with Powder of Rhubarb alone, by which she discharged little or nothing, without the least Degree of Relief; at other times, with Powder of Rhubarb, in Conjunction with that of Jalap-root, by which copious Stools were evacuated with Ease. A Clyster was also injected, by which she was render'd worse; neither could she bear Unctions of any kind; for which Reason the Use of these Medicines was dropt. During the Course of the Disorder, the Flux was three times stopt, and the Patient apparently in a fair Way of Recovery; but, as she used a very bad and improper Regimen, she relapsed, and fell a Sacrifice to her Folly.

Upon laying open her Body, the following Phenomena occur'd: First, the Omentum, though of a due and natural Bulk, was yet sphacelated, and of a blackish livid Colour. Secondly, the Duodenum and Jejunum were very full of Bile; a Circumstance sufficient to account for her insatiable Thirst. Thirdly, about a Cubit Length of the Ilium, where it tends towards the Intestinum Cæcum, was corrupted and sphacelated. Fourthly, the Colon, for about four Fingers Breadth from the Cæcum, was found; but, for about eight Fingers

Finger-breadths farther, corrupted. Fifthly, the Gall-bladder was very large; and distended with Bile, as green as Grass. The other Parts seem'd to be in an excellent State; for nothing amiss appeared, either in the Rectum, or any of the rest of the Intestines. The Liver also, the Spleen, and Pancreas, were in their due and natural Condition. *Alard. Herman. Cummen. in Miscel. Curios. An. 1673. Observat. 116.*

OBSERVATION II.

A Dysentery may arise from preternatural Tumors form'd in the Intestines; a memorable Instance of which we have in the Son of *Jacobus Fontanus*, who, in the ninth Year of his Age, died of a Dysentery. As the precise Seat of the Disorder was dubious, and its immediate Causes unknown, the Father took care to have his Body laid open, after his Death.

The Surgeon appointed for this Purpose, between the Beginning of the Colon, and the End of the Rectum, found more than two hundred round Ulcers intermix'd with Impostumations. Some of these Ulcers had corroded the whole Coats of the Intestine; some Parts of which were found found and entire between the Ulcers. *Jacob. Fontan. Pract. Lib. 3. Cap. 23.*

OBSERVATION III.

A certain young Man, accustomed to drink too large Quantities of Brandy, had the Misfortune to be seized with a Dysentery, accompanied with violent Pain. During the Course of this Disorder, he frequently discharged by Stool about two Pounds of concremented Blood; which, from the Finess of its Colour, was concluded to have come from a ruptur'd Artery.

Upon laying open his Body after Death, I found the small Intestines here and there sphacelated, their Coats corroded, and in four Places totally perforated. *Barbette, Prax. Lib. 4. Cap. 5.*

OBSERVATION IV.

In the Year 1624. I opened the Bodies of several Persons, who died of Dysenteries; and, among the rest, that of a Soldier, whose Disorder had been of a long standing. In this Subject I found the Intestines highly inflated, and their interior Coat totally abraded. And, what was still more surprising and uncommon, the Gall-bladder was distended with a tough, viscid, and white Humour, resembling a Poultice of Starch, whilst, at the same time, the smallest Remains of Bile were not to be discovered. *Bontius Med. Indorum, Lib. 3. Obs. 3.*

OBSERVATION V.

A Countryman, of about forty Years of Age, after the proposterous and imprudent Suppression of a Dysentery, was, for seven Weeks, rack'd with continual Pains of his Belly, which, however, were more intense than ordinary at certain short Intervals. Upon laying open his Body, his Liver was dry, and of a pale Colour. On the Gall-bladder there was an Abscess as large as one's Fist, which discharged Pus near the Cavity of the Liver. There was also another Abscess found in the Mesentery. *De Lamoniere, de Fluxu Hepatico, Cap. 1.*

OBSERVATION VI.

In the Year 1608. a certain Boy was seized with a Dysentery, which only discovered itself, and exerted its Fury, at certain Intervals. This Circumstance I suspected to proceed from the Gnawing of Worms: Nor, indeed, was I wrong in my Conjecture; for, upon laying open his Body, I found the Intestines very full of Worms. *Jacobus Fontanus, Practica Lib. 3. Cap. 21.*

A Dysentery, attended with a Fever, various Stools, an Inflammation of the Liver, Hypochondria, or Belly, Pain, Loathing, or Thirst, is always bad; but the Patient, who is affected with most of them together, soon sinks under them; and, by consequence, he who labours under fewest, is in least Danger. This Disease is principally fatal to Children from five to ten Years old; the other Ages are more secure. A Dysentery which proves beneficial to the Patient, is attended with none of these Symptoms. Where Blood and Strigments are voided by Stool, the Disease terminates on the seventh, fourteenth, twentieth, or fortieth Day, or within those Periods. These Sorts of Fluxes are effectual towards extirpating Diseases out of the Body, the more inveterate in a longer Time, the recent, perhaps, in a few Days; for even pregnant Women often labour under a Flux of Blood, and Strigments, for many Months together, and yet support themselves under it till the Time of Birth, and afterwards, and preserve the Fœtus, unless a Pain happens to molest them, or some other of the bad Signs attending a Dysentery before-mention'd. But if any of these makes its Appearance, it prognosticates Destruction to the Fœtus, and Danger to the Mother, unless the Dysentery ceases the same Day, or in a short time after the Delivery of the Fœtus, and bringing away the Secundines. *Hippocr. Prædict. Lib. 2. See ALCALI.*

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Among the Diseases of the Intestines may be reckon'd the *Tormina*, by the *Greeks* call'd *δυσήστια*, "the Dysentery." In this Disorder the Intestines are exulcerated on the Inside; Blood flows from them, mix'd sometimes with Fæces, which are always liquid; sometimes with a kind of mucous Excretions; and sometimes Caruncles are discharged with the Excrements: There is a frequent Desire of evacuating, with a Pain in the Anus; some inconsiderable Discharge is made with the same Pain, and the Torment becomes more intense; which, however, after some time, is alleviated: The Patient has very little Rest; his Sleep is interrupted; he becomes feverish; and, after a considerable Length of Time, either perishes under the Inveteracy of the Distemper, or escapes with much Difficulty and Torment.

First of all, the Patient must have Rest; for all Agitation promotes the Exulceration of the Parts: Then he must drink, fasting, a Cyathus of Wine, in which the bruised Root of Cinquefoil has been added. Apply repellent Cataplasms to the Belly: As often as he goes to Stool, let him wash with a Decoction of Vervain; let him eat Purslain boil'd, or out of strong Pickle, and use an astringent Diet.

If the Disorder be of pretty long standing, Clysters are to be injected of warm Cremor of Pisan, or Milk, or melted Fat, or Stags Marrow, or Oil, or Butter and Oil of Roses, or Oil of Roses with the raw White of an Egg, or a Decoction of Linseed; or, if Sleep be wanting, the Yolks of Eggs, with a Decoction of Rose-leaves. Such Medicines alleviate the Pain, and are of great Service, especially if a Loathing of Food be consequent upon the Distemper. *Themison* has advised the Use of the strongest Brine in such Cases.

The Food ought to be such as gently binds the Belly: As for Diuretics, if they have their proper Effect, they are of Service, by diverting the Humour another Way; otherwise they increase the Disease: For which Reason they are not to be used, but on such Subjects as have been accusom'd readily to receive Benefit from them. The Drink, if the Patient be feverish, is to be pure Water warm, and also Water endued with an astringent Quality; or, if that be wanting, thin austere Wine. If these Remedies give no Relief, after they have been used for several Days together, and the Disorder grows inveterate, the Drinking of Water, of a good Degree of Coldness, astringes the Ulcers, and lays the Foundation of Recovery; but, when the Evacuations are suppressed, we are immediately to return to warm Potions.

Sometimes a putrid and very fetid Sanies is discharged, and sometimes pure Blood comes away in the Stools: In the first Case, the Belly is to be well cleansed with Injections of Hydromel, and those other Remedies before prescribed. An effectual Remedy against a Cancer of the Intestines is a Lump of Minium bruised, with half a Pound of Salt, or a Clyster of the same, with Water: If Blood be voided in the Stools, the Patient is to eat and drink such Things as are of an astringent Quality. *Celsus, Lib. 4. Cap. 15.*

The superior Intestines, which reach as far as the Cæcum, are small, and contain Bile, are called *Cholades*; whereas the Intestines inferior to these are large, carnosus, and extended to the Beginning of the Rectum.

As Ulcers are formed in all these Intestines, so Dysenteries, which are produced by these Ulcers, must, of course, be of various Kinds; for some Ulcers only affect the Surface of the Intestines, and are without Danger, when they only produce a gentle Excoriation: They are also safer in the inferior than in the superior Intestines. But, when these Ulcers become pretty deep, they are certainly of a bad Kind. There are others still of a worse Kind, which do not continue in the same State, but are deep, corroding, glandulous, spreading, productive of a Sphacelus, and Death; for, whilst they spread, the small adjacent Veins are corroded, in consequence of which, large Discharges of Blood are made into the Ulcers. There are other Ulcers of the Intestines, which are tumid, rough, anomalous, callous, and resembling such Knots as are generally found in the Branches of Wood. These with Difficulty admit of a Cure, since they are not easily brought to a Cicatrix, and, when they are, break out again upon the slightest Occasion.

The Causes of a Dysentery are various; but the most considerable are Crudities, continued Colds, the Use of acrid Aliments, such as the *Myrtotum* [a kind of Food made of Garlick, Onions, and Cheese, bruised together], or Onions or Garlick, or old and acrid Flesh, the Use of which generates Crudities. This Disorder is also produced by drinking Liquors, to which Persons have not been accusom'd; such as the *Cycum*, the *Bryton*, and other Liquors used in various Nations for common and ordinary Drink. Wounds also, Cold, and the Drinking of cold Water, produce Exulcerations of the Intestines.

But, in different Ulcers, the Excretions, and other Signs, are different; for, if these Ulcers only affect the Surface of the superior Intestines, then bilious Excrements, and such as are free from all Smell, except what they contract from the Intestines, are discharged. But, when the Jejunum is exulcerated, the Excrements are more saturated with Bile of a Saffron-colour, and fetid

fetid Smell. This Discharge is made together with the Aliments, which are colligated, but unequal; and the Smell of the Excrements is sometimes highly fetid, and the Ulcers putrid; at other times the Humours have no other Smell than that of the Excrements. But, when the inferior Intestines are exulcerated, the Excrements are aqueous, thin, and inodorous. If the Ulcers are deep, an Humour like Sanies, reddish like Wine, or the Washings of Flesh, is discharged, sometimes alone, and sometimes along with the Excrements. It is sometimes humid, and dissolved by the surrounding Fluid, without Bile, and void of Smell; or compact and dry, but slippery on account of the Fluid which surrounds it. If large and smooth Ulcers are form'd in the superior Intestines, a bilious Humour is discharged, both on account of the Intestines from which it comes, and through which it passes. This Humour also stimulates the Anus, because the Bile, especially when flowing from an Ulcer, is acrid: The Bile is also pinguious, resembling Fat. But thick and concreted Blood, together with Phlegm, and some carnos Shreds, and even entire Parts, of the Intestines, which are not very pinguious, are discharged from deep Ulcers of the inferior Intestines. Sometimes a white, thick, mucous Substance, like Fat cut small, with a certain Humour, is discharged; but this comes from the *Intestinum Rectum*. Sometimes a mucous Substance, small in Quantity, round, pungent, and exciting an Itching of the Parts, and a frequent Desire of going to Stool, attended with a Sense of Pleasure, is evacuated. This Species of Disorder is called *Tenesmus*. But from the *Cæcum* large reddish Portions of Flesh are evacuated; the Ulcers are generally deep, the Blood discharged thick and seculent, and the Smell more fetid than that of other Humours. If the Ulcers are of a spreading and corroding Nature, and cannot be check'd by any means, bilious Humours, of a deep Colour, resembling that of Saffron, frothy, sometimes black, resembling the *Fæces* of Wine, the Herb *ioditis* [Woad], or Leeks, are evacuated. It is also thicker than the above-mentioned Humours, and of a putrid Smell. Sometimes the Aliment is discharged, as it were, undigested, and as if hastily masticated by the Teeth. If, on the contrary, the inferior Intestines are corroded, black Concretions, and grois, carnos, reddish, grumous, and sometimes black and much variegated, and fetid Humours are evacuated; and sometimes there is an involuntary Discharge of a Liquid. Sometimes a Substance of a considerable Length, very much resembling an entire Intestine, is discharged, and strikes the Minds of the Ignorant with a Dread of having lost Part of their Intestines; but this Accident is to be accounted for in the following manner: The Intestines, as well as the Stomach, have two Coats, one of which lies obliquely on the other. When the Union and Connection of these is destroyed, the interior Coat, being separated longitudinally, is discharged; and the external Coat, remaining, contracts and cicatrizes; by which means the Patient is recovered: But this only happens in the inferior Intestines, whose Coats are fleshy. But, if the Blood flows from any Vessel, it is yellow, black, or pure, and unmixed with any Aliments, or with the common Excrements. A certain Concretion, resembling a Spider's Web, also floats on its Surface; and, when it becomes cold, it is formed into grumous Clots; so that one could scarcely believe it was Blood discharged from the Body: But, as it is evacuated with much Wind and Noise, the Quantity discharged seems to the Patient to be much larger than it really is. Purulent Abscesses are also sometimes formed in the Colon; in which Case there is nothing extraordinary, more than in other internal Ulcers, since the Signs, the Nature of the Pus, and the Method of Cure, are the same. But, if fleshy Substances are discharged, hard, compact, and rough, it is a Sign, that the Abscess is malignant. Sometimes a large Quantity of Water is discharged from the Colon in the manner of a Dysentery; by which Circumstance many have been freed from a Dropsy. These are the various Species of Ulcers, which are formed in the Intestines, and the different Kinds of Humours discharged from them.

It now remains, that we consider the prognostic Signs of these Ulcers, whether good or bad. In general, therefore, if the Excoriation is only superficial, either in the superior or inferior Intestines, the Patients are free from every Degree of Fever or Pain, and may, without Decubiture, by a slender Regimen adapted to each Case, be restored to perfect Health. But if, in case of an Ulcer in the superior Intestines, severe griping Pains are excited, as it were, by a small Quantity of overheated Bile, these Ulcers of the Intestines generally come to a Suppuration, tho' at different times. The Concoction and Digestion of the Aliments are imperfect, tho' the Patient's Appetite does not fail him. Exulcerations happening in the inferior Intestines are far less dangerous than those of the superior, because the former are much more fleshy than the latter. But, if hollow and spreading Ulcers are formed in the superior Intestines, acute and obscure Fevers in the Viscera are produced; a Chilliness seizes the whole Body; the Patient loaths his Food, and is afflicted with Watchings, fetid Eructations, a Nausea, a Vomiting of Bile, and a Vertigo. If there is a copious Discharge of bilious Matter, the Gripings continue,

and the other Pains are increased; the Strength is rendered languid, and the Knees paralytic; the Patient is scorch'd with a burning Fever, becomes thirsty, is seized with a Nausea, and vomits a black Matter. His Tongue becomes dry, and his Pulse small and weak. All these Symptoms are accompanied with others, which are fatal in malignant Ulcers. The Patient is seized with the cardiac Passion to such a Degree, that he faints away, and dies, before he can be recovered. The same Accidents are common to Erosions of the inferior Intestines, if the Ulcers are of the spreading Kind, and if the Discharge of the Humour cannot be check'd. Besides, Gripes and Pains arise below the Navel, where the Ulcers are perceived, and the Humours discharged are such as we have above represented them. If at first the Ulcers are small, and do not for some time begin to spread, these small Ulcers, like the Waves of the Sea, succeed each other; some of them subsiding, whilst others rise to an Apex. If Nature is as yet sufficiently strong, and duly assisted by the Physician, the Ulcers may be kept from spreading; neither is there any Danger of Death. The Intestines, however, remain hard and tumid, and require a long time before they can be restored to their natural State.

A Discharge of Blood from the Intestines, if proceeding from some large Vein or Artery, soon proves mortal; since the Hand can neither have Access to the Part affected, nor any Medicine be applied to the Ulcer. Besides, though the Discharge of Blood should be suppressed by Medicines, the Patient is not by that means placed beyond the Reach of Danger; because, in some Cases, the Separation of a large Eschar renders the Orifice of the Vein or Artery still larger. When the Blood is formed into grumous Concretions, and remains undischarged, the Disorder admits of no Cure. A speedy Stop is therefore to be put to such Hæmorrhage, which, when approaching, may, though not very certainly, be prognosticated from the following Signs; that is, a restless and uneasy State; a Sense of Weight in the Part where the Rupture is about to happen; and a Redness of the Countenance at the very Time it happens. When the Vein is recently ruptured, it is, for the most part, capable of being soon consolidated; but, when the Rupture is of long standing, it is more slowly, and with greater Difficulty, cured.

These Ulcers of the Intestines happen most frequently in the Summer; next to which, the Autumn is the most general Season for their Production. They happen more rarely in the Spring, and never in the Winter. Diarrhoeas are principally incident to Children, and very young Persons; whereas Persons in the Vigour of Youth, and such as are arrived at the Years of Maturity, are more generally afflicted with Dysenteries. In old Age these Ulcers are with Difficulty cur'd, and require a long time before a Cicatrice is form'd on them. But in old Persons, corroding Ulcers are scarce to be met with: Besides, Discharges of Blood are beneficial to old Age. *Arctæus, de Caus. & Sign. Morb. diuturn. Lib. 2. Cap. 9.*

This Disease took its Name *δυσεντερία* [Dysentery] from its causing the Intestines to perform their Function with Pain. It may be defined, A Rheumatism of the Belly, attended with an Exulceration; and it is preceded either by the Flux, which the *Greeks* call *Diarrhæa*, the *Cholera Morbus*, or a Tumor of the Belly. The Distemper is sometimes acute, but more frequently of the chronical Kind. The Symptoms are, mucous Excretions, mix'd with Strigments, and a thick Humour: First, comes away the natural Mucus of the Intestines; after that, the Excrements are various, as sanguineous, bilious, sanious, and seculent, mixed with Corpuscles of congealed Blood, which the *Greeks* call *δυσεντερία* livid; carnos, mix'd with Membranes of a very great Length, intolerably fetid, attended with a Pain from the Ulcerations, a Loathing, Thirst, and a burning Heat of the internal Parts: These Symptoms are succeeded by a Want of Sleep, and, sometimes, a feverish Disorder, Anxiety, Tossing, Dulness of the Senses, and, in some Cases, a Rumbling of the Intestines, with a Tension, Flatulencies, and a Difficulty of making Water. Sometimes the Disorder is attended with Vomiting, and a Palpitation of the *Præcordia*, or a cold Numbness, the Tongue humid, or very dry and rough, and ash-colour'd or livid, with Extenuation of the Body, Corruption of the Aliment from a distemper'd Heat, an incessant Desire to excrete, attended with a biting Sensation in all the Intestines, the Anus, and Parts adjacent: The Ulceration happens either in the small Intestines, as the Duodenum, Jejunum, or *Cæcum*; or in the great ones, as the Colon, or *Rectum*. But we can by no means believe the Ulceration to be universal in all the Intestines at one time, because such a Case would be prevented by the Death of the Patient. An Ulceration in the small Intestines is known by a Pain seated above the Navel, or taking its Beginning from that Place, and by the constant and remarkable Thinness of the *Fæces*. If the great Intestines are ulcerated, the Pain lies below the Navel, and the Excrements appear carnos, and are frequently more solid and coagulated, if the *Rectum* be the only Part affected, and especially its inferior Parts: For an Ulcera-

Ulceration of the small Intestines prevents a Digestion of the Food, and a Conversion of it into a stercoraceous Substance. Sometimes, at the End of a Stool, the Fæces, striking on the Ulcers, excite a Bleeding, and Drops of Blood come away, giving manifest Signs of a Tenesmus; by which we know, that the Part of the Rectum near the Fundament, which the *Greeks* call *ἔσχα*, is ulcerated: For the Patients are affected with a frequent Irritation to Excretion, which is perform'd with much Straining and Labour, and a Tension of the *Nates*, and the *Pecten*, as far as the *Pubes*, as if caused by some solid Body contained in them: But the Discharges are but small, and somewhat mucous, mix'd with a gross Humour; for the first Excretions are pinguious, the next sanguineous, mix'd with coagulated Fæces. We are of Opinion with those who comprehend a *Tenesmus* under a Dysentery, since it is an Ulceration of Part of an Intestine; unless you had rather bestow the Name of *Tenesmus* on the Tumor before Exulceration. *Cælius Aurelianus, Morb. Chronic. Lib. 4. Cap. 6.*

Among the spasmodic and convulsive Disorders we may justly rank that Discharge of bloody Excrements, which Physicians, in a strict Sense, call Dysentery, and which *Cælius Aurelianus* defines, A Rheumatism of the Intestines, attended with an Ulcer; and, the judicious *Sydenham*, A Fever, in which the peccant Humours are thrown upon the Intestines: For a Dysentery is nothing but the peristaltic Motion of the Intestines, so increas'd, as to become a Species of Convulsion, by Humours of a caustic and ulcerating Quality adhering to their Coats, and which bring on a frequent Desire of going to Stool, and as frequent a Discharge of mucous and bilious Sordes, stain'd with more or less Blood, or Sanies, and attended with violent Gripes, and a febrile Commotion.

This Disorder ought to be distinguish'd from other Fluxes, tho' accompanied with Gripes, that go by the Name of *Diarrhœas*; for in these, the Gripes of the Intestines are not, by far, so violent, as in a Dysentery, and the Humours discharg'd are never bloody, but only pituitous, or mix'd with a bilious Sordes; whereas, in a Dysentery, the Humours are bloody, sanious, putrid, and fetid. With respect to the Difference betwixt a *Cholera* and a Dysentery, that has been specified under the Article *CHOLERA*.

It requires greater Judgment, to distinguish a Dysentery from an hæmorrhoidal Flux, which is attended with violent Gripes; for the Blood in this Case evacuated, is generally pure, and, as it is frequently discharg'd along with the Stools, it contributes, almost always, to the Improvement of Health; whereas, in a Dysentery, the Blood is discharg'd with a troublesome Tenesmus, and violent Gripes; and is seldom or never pure, but rather diluted, and mix'd with a sanious, frothy, and fetid Matter, the Evacuation of which is not succeed'd with an Increase of Strength, but rather renders the Patient worse. Besides, the Fever which generally attends it, and the peculiar Time of the Year it rages in, may easily distinguish it from an hæmorrhoidal Flux. There is also a Difference betwixt a Dysentery, and that endemial Distemper at *Paris*, which commonly seizes all Strangers; tho' they resemble one another in several respects; for, tho' this Disorder be attended with frequent Stools, which are first mucous, and afterwards bloody, yet it is not, by far, so malignant and contagious as a Dysentery; besides, it is never accompanied with a Fever; seizes Persons at any time of the Year; and, tho' it continues longer with them, yet it never hinders them from going abroad, and pursuing their Business, which is far from being the Case of those who are troubled with a Dysentery.

Dysenteries are distinguish'd into benign and malignant. The former continues longer, but proceeds more gently, and is less dangerous: The latter is not only of a contagious Nature, but is also attended with some fatal Symptoms, such as a malignant Fever, a Defect of Strength, and exanthematous Disorders. We ought also to observe, that Dysenteries are distinguish'd into red and white: In the former, the Humours evacuated are always bloody; but, in the latter, sanious, and mix'd with carnos Filaments, and ulcerous Shreds, abraded from the Coats of the Intestines.

The Dysentery is a peculiar Kind of Distemper, being seldom sporadic, but generally epidemic; and then it is attended with various Degrees of Malignity. It spares neither Sex nor Age, but seizes Men, Women, and Infants, without Distinction; so that the tender sucking Children are not exempted from its Tyranny. The People more generally subject to this Distemper, are those of a plethoric or bilious Habit of Body, and such as labour under a great Weakness of the Stomach; and it is generally most severe in Persons that live intemperately, or eat too much Summer Fruits, especially if they be unripe, and have a Tendency to Fermentation. A Dysentery has also a more violent Effect on such as expose themselves, when they are warm, to the cold Air of the Night: And hence it is, that Soldiers in a Camp are very subject to it: And, for that Reason, it is distinguish'd by the Epithet *Campensis*; and, because it rages frequently and severely in *Hungary*, it sometimes acquires the Name of the *Hungarian* Distemper.

We ought, also, to advert to the Season when Dysenteries principally rage: And, if we consult *Hippocrates* on this Head, he informs us, *Seet. 3. Aph. 2.* that Dysenteries rage in those Summers, which succeed an intensely cold and dry Winter, and a rainy Spring: And, *Aph. 12.* that a rainy Winter, and a dry Spring, have a Tendency to produce them. The hottest Season is observed to have the most natural Tendency to bring on a Dysentery; and about the End of Summer, or Beginning of Autumn, that is, in *August* and *September*, when the cold Nights succeed the intense Heat of the Sun in the Day-time, this Distemper is observ'd to rage: For this Reason, in all hot Climates, it is found to be more frequent and severe; and in *Egypt*, *India*, or *Arabia*, this Disorder is endemial. See *Bontius, Lib. 2. Hist. Nat. Ind. Orient.* Malignant Dysenteries are also observ'd to rage, when great Numbers of Flies, Caterpillars, Spiders, and other Insects, are observed in the Air.

A considerable time before People are seiz'd with a Dysentery, they are observed to complain of a Weariness of Body, of a Swelling and other troublesome Motions in their Bellies. And *Cælius Aurelianus, Lib. 4. Morb. Chron. Cap. 6.* long ago observ'd, that a *Diarrhœa*, a *Cholera*, or a Swelling of the Belly, usually precedes Dysenteries. This Disorder often begins with feverish Cold, or at least some Shivering of the Body; which is succeeded by a Heat more or less violent, which accompanies the Disease thro' all its Stages, and is attended with a quick Pulse, and intense Thirst. Vehement Gripings, in the lower Part of the Belly, either precede, or very soon succeed, this feverish Chilness: Then the Belly becomes soluble: And, first, the Fæces, Crudities, and mucous Humours, are discharg'd: A little after, pinguious, and almost oleous Juices; and lastly, a frothy Matter, mix'd with Blood, ulcerous Sanies, Shreds, and membranaceous Filaments, generally evacuated in small Quantities. Persons that have a great deal of Sordes in their Stomachs, are troubled with a Nausea, a great Desire of Vomiting, and, frequently, actual Evacuations of that Kind. Many are afflicted with a vehement *Cardialgia*, and an Anxiety about the *Præcordia*. Every one under this Distemper is afflicted with a perpetual Desire of going to Stool, and such a strong Tenesmus of the Anus, that a most irksome Falling down of the same frequently ensues: Every Stool is preceded, accompanied, and followed by most violent and severe Gripes; and that not in one Part, but thro' the whole Canal of the Intestines; and, when the Patient goes to Stool, he feels, as it were, all his Bowels descend with exquisite Pain. Lastly, Persons under this Distemper lose all Appetite for Food, and are oppress'd with Restlessness, because of the Frequency of Stools; Sleep is banish'd, and their Strength much impair'd.

These are the ordinary Symptoms of Persons in a Dysentery, which, upon the Increase of the Distemper, are followed by others much more dangerous and fatal: For some, while they are cold without, are burnt up within, and tormented with continual Heats and Pulsations of the Intestines. Hickups, cold Sweats, Paleness of the Visage, Leanness, Inflammations and Aphthæ of the Fauces, soon succeed these. It rarely happens, that Dysenteries are free from Pain. See *A. N. C. Dec. 1. anno 2. Obs. 43.* and *Art. Med. Hassn. Vol. 2. p. 138.* Sometimes Persons, in the Extremity of the Distemper, lose all Sense of Pain, feel no Thirst, make an involuntary Discharge of Excrements, which are of an highly fetid and cadaverous Smell, and the Pulse becomes small, and then certain Death ensues. It ought, also, to be remark'd, that a Dysentery has often prov'd contagious: Thus, contrary to what commonly happens, the Infection has been propagated to others solely by the Smell of the discharg'd Sordes, as we find in *A. N. C. Dec. 2. Ann. 6. Obs. 25.* And we have some Instances of Mothers labouring under a Dysentery, who have propagated the same Disorder to their sucking Infants. *A. N. C. Dec. 2. Ann. 6. Obs. 195.* Whilst we are giving this historical Account of Dysenteries, it will not be improper to make some Remarks on the anatomical Dissections of Persons that have died of this Distemper: And, first, all Writers affirm, that, in Subjects of this Sort, both the large and small Intestines are inflamed, mortified, or exulcerated, and overspread with Bile, after Death, as may be seen at large in *Bartholine, Cent. 6. Inst. 2.* and *Barbette, Lib. 4. Cap. 3.* And particularly *Joannes de la Moniere*, in his *Treatise de Fluxu dysenterico* says, he saw the Pylorus, and small Intestines, inflam'd. That the small Intestines have been found of a livid Colour, and overspread with Bile on the Outside, and gangren'd on the Inside, appears from *A. N. C. Dec. 2. Ann. 6. Obs. 104.* And *Platerus, Lib. 3. p. 875.* and *Riverius, Cent. 3. Obs. 2.* have observed the large Intestines, in like manner, livid, and affected with a Gangrene. And the same *Platerus, Mantiff. Obs. p. 25.* found a Gall-bladder, entirely destitute of Bile; but the Ileum and Colon, which abounded with Ulcers on the Inside, were stain'd with Bile. *Bontius*, instead of Bile, found in the Gall-bladder, a Liquor very much resembling Chyle; and the *A. N. C. Dec. 2. Ann. 6.* testify, that the

Bile,

Bile, in Persons who have died in this Distemper, is of a porraceous Colour, or nearly that of Grass.

By comparing carefully these things with the Symptoms of the Distemper, it will be an easy matter to discover the true Seat of a Dysentery. It lies in the large Canal of the Intestines, which, according to *Sydenham, Sect. 4. Cap. 3.* are successively affected, till the whole Violence of the Distemper fall down on the Intestinum Rectum, which is tormented above the rest with an excessive Pain, and a vehement Tenesmus. Nor can I deny, but that the adjoining Parts, especially the Liver and biliary Duets, may, thro' Sympathy, feel the Tyranny of the Distemper: But, as to the Intestines, we can easily discover which of them suffers most: For, if the Vehemence of the Pain be felt about the Navel, and if slower Stools follow thereon, we may infallibly conclude, that the Seat of the Disorder lies in the small Guts: But when, on the other hand, the Violence of the Gripes falls either on that Part of the epigastric Region, where the Colon is situated, or on the hypogastric Region, and the Faeces are soon after discharg'd, in that Case, 'tis evident, that the Distemper is seated in the larger Intestines: And, lastly, when People under this Distemper, have a continual, tho' fruitless, Inclination to go to Stool; or when they void nothing but a tough, clammy, acrid, and virulent Mucus, and that but in small Quantities; it seems highly probable, that there is an Ulcer in the *Intestinum Rectum*.

'Tis not my Business, at present, to enlarge on the Structure of the Intestines, much less to enumerate the various Names, Situations, and Windings of the same; but it may not be improper to take notice of some Particulars, that have a more immediate Connection with our present Design. Both the larger and smaller Intestines, like the Stomach, are made up of four Coats: The muscular Coat is made up of two Series of Fibres, one longitudinal, the other spiral, by the Help of which the peristaltic Motion is perform'd: The nervous Coat is furnish'd with a large Number of Blood-vessels, which seem to make a peculiar Coat of themselves, the Inside of which is cover'd with a great Number of small Glands, which by their excretory Duets secrete from the Mass of Blood, into the Cavity of the Intestines, not only that serous and mucous Humour, which, like Glue, adheres to the Tunica Villofa, and defends both that and the subjacent nervous Coat from the Acrimony of the Substances used as Aliments; but also another Liquor, of a still more excrementitious Nature: For it is carefully to be observ'd, that the Humours, especially of the serous Kind, are secreted in any Parts, the Bulk of whose Pores is proportion'd to the Particles to be secreted: Thus, the more subtil Parts of these Liquors are exhaled through the Pores of the Skin. What is proportionably grosser, is convey'd to the Kidneys; and what is still thicker, is carried to the Intestines, as the common Receptacle of all the grosser Humours.

From what has been said, we may more easily discover the genuine Nature of a Dysentery, and account for the several Symptoms with which it is accompanied. That the secondary and remote Cause of it consists in the peristaltic Motion of the Intestines, so increased as to become a Species of Convulsion, is obvious to every one, who but allows himself to reflect on the violent Pains and Gripes, with which those labouring under this Disorder are afflicted: Nor can it be denied, that its more direct and immediate Cause consists in a highly acrid and caustic Humour, which vellicates and stimulates the Coats of the Intestines. But the Qualities of this Liquor, and the Method in which it is generated, are Points hitherto so obscure and latent, that Physicians and Anatomists run into different Opinions concerning them.

Some of the Antients maintain'd, that this Humour, in its Nature and Qualities, resembled Coloquintida: And, if we compare the Effects produc'd in the human Body by Coloquintida, and which are enumerated by *Stalpart Vanderwief, in Obs. 41.* with the Symptoms attending a Dysentery, we have some Reason to conclude, that they were pretty much in the right. But the Opinion most generally received is, that the immediate Cause of a Dysentery is seated in the Intestines, and is a highly acrid Humour, generated by Summer Fruits, especially when unripe, fermenting with the other Juices, especially those of the bilious Kind, and vellicating, corroding, and excoriating, the nervous Coats of the Intestines. Tho' I readily grant, that this Cause may often concur to the Production of a Dysentery, yet I will not affirm, that the Disorder proceeds universally from it, since a Dysentery is of so contagious a Nature, as to seize Persons who have eaten no Kind of Fruits, as also sucking Infants: For this Reason, others have had recourse to a certain specific kind of Miasma, whose particular Quality it is, to ferment in the Intestines with the Bile especially, and then to corrode them. But neither can I agree, in every respect, with this Opinion, when I consider, that sometimes an Humour is discharg'd from the Intestines, so highly acrid, as to corrode Silver Vessels, tho', at the same time, the Coats of the Intestines are neither corroded by

it, nor so violent Gripes excited, as in a Dysentery. Nor is it sufficient to retort, that in a Dysentery the villous Coat is first abraded, and then the nervous Coat vellicated; for the same Effect may be produc'd by any other acrid Humour; and 'tis, besides, confirm'd by Experience, that the Gripes of dysenteric Patients begin with the very first Appearance of the Disease, before the villous Coat of the Intestines could possibly be abraded.

For this Reason I am inclin'd to think, that the genuine and most immediate Cause of a Dysentery, which produces the severe Gripes, and all the other Train of Symptoms, is principally lodg'd in the Blood-vessels, which surround the nervous Coat of the Intestines: And I am of Opinion, that this Cause is nothing more than a serous, lymphatic, and mucous Matter, coalescing into a viscid and caustic Mass with the saline, acrid, and sulphureous Particles fluctuating in the Mass of Blood, and sometimes mixing with an adventitious Taint, convey'd to the Body by external Causes: For this Matter being, by a certain febrile Motion, arising from a Constriction of the Surface of the Body, convey'd thro' the Blood-vessels into the nervous Canal of the Intestines, does, partly by its Acrimony, vellicate, corrode, and stimulate their delicate Coats so as to bring on Gripes and Constrictions; and, partly by its Viscidity and Toughness, distend and rupture the Vessels in which it is lodg'd. Hence we discover the Origin of the Convulsions and Gripes, which are heighten'd, and render'd more atrocious, in proportion to the Quantity of the acrid Sordes contain'd in the Intestines. During these violent Contractions of the Intestines, their Contents must necessarily, and in the very Nature of the Thing, be evacuated; for, after the remaining Crudities of the Aliments are eliminated, the Constriction continuing, the Mucus, which covers the villous Coat, is forcibly abraded and discharg'd with the more or less noxious Humour dropping from the Glands of the Intestines, under the Form of a pinguious and oleaginous Mucus. Whilst these Effects are producing, and whilst the biliary Duets, together with the Gall-bladder, are, by the Consent of Parts, violently compress'd, they discharge all their Bile into the intestinal Duct; and this Bile is evacuated by Stool, along with the rest of the Mucus. Besides, so long as this Distention of this membranaceous Canal continues, the Blood-vessels, already turgid with the Blood convey'd to them, are compress'd, the Regress of the Blood thro' the Veins is hinder'd, and its Afflux being still continued, it stagnates, breaks thro', or extravasates itself into the Intestines. Hence the Excrements appearing'd with Blood, or a dangerous Inflammation of the Intestines is brought on, and is to be discover'd by the continual Sense of Heat, and a beating Pain. This Inflammation either degenerates into a sanious Ulcer, which preys upon the villous Coat of the Intestines; and, in this Case, an ulcerous Sanies is evacuated by Stool, along with fleshy Filaments; or it plainly terminates in a Gangrene, or fatal Mortification, which is accompanied with no Degree of Pain; and the Excrements, in this Case, diffuse a cadaverous Smell.

We now come to investigate those procatactic Causes, which by giving Birth to this noxious Humour, produce a Dysentery: And the Causes of this kind may, in my Opinion, be principally reduced to three Classes; the first of which is, the State of the Weather; for after a long-continued Series of hot and dry Weather, when, for the most part, cold Nights succeed the intense Heat of the Sun, Dysenteries are observed to rage. Disorders of this Kind, arising from too dry a State of the Atmosphere, are described in *A. N. C. Dec. 2. an. 4. Obs. 24.* Besides, this Disorder is principally incident to Patients, who, being over-heated, and sweating too copiously, during the Day, allow the cold Air of the Night too free an Access to their Bodies by being slightly covered. The Reason of this is sufficiently obvious; since, by the long-continued Heat and Driness of the Air, the Mass of Blood is resolved and colligated, and the Sweat flows too copiously. Hence the finer, more fluid and balsamic Juices being dissipated, the remaining Humours become mucous, acrid, impure, and sulphureous; and the Patients are by this means rendered proportionably weaker. If therefore, to a Body thus disposed, the cold and pinching Night Air is freely admitted, its Surface is by this means constricted, and the farther Dissipation of the more subtle and sulphureous Sordes obstructed: Hence these Sordes, uniting with a mucous Lymph, degenerate into a tough and highly acrid Matter; which, by the febrile Motion, is conveyed to the Intestines, as the largest Receptacle and Strainer of mucous Sordes, where it generates and produces a Dysentery. That Species of Dysentery which is peculiar to Camps, is also generated in the same manner; and may be produced without the Concurrence of any malignant and external Taint.

When, to the now mentioned State and Constitution of the Atmosphere, there are added any Exhalations of a virulent Nature, which constitute another Class of procatactic Causes; then are produced epidemical Dysenteries, more or less malignant and contagious; and rage far and near, spreading their baleful Influences over large and spacious Tracts of Land. Thus

Fernelius,

Fernelius, de abd. Rer. Caus. Lib. 2. Cap. 13. makes mention of an epidemical Dysentery, which, in the Year 1538. raged over all *Europe*. These Miasmata are either generated in the Air, from the malignant Effluvia arising from the Earth, and the particular Constitution of the Winds; and then they are drawn into the Body in Inspiration: Or when Aliments, especially hot Herbs, and Summer Fruits, covered with the malignant Eggs of the Insects at these Seasons observed to be very numerous in the Air, are eaten, these small Eggs are mixed with the Chyle, and conveyed to the Mass of Blood. But it is to be observed, that, during such a Constitution of the Atmosphere, the Contagion received into the Body lies latent for some time, and waits for some accidental Cause to make it exert its Virulence. For this Reason I have often observed, that, during Seasons of this Kind, the slightest Stimulus of the Intestines, brought on by a Purgative, forthwith produces a Dysentery. Besides, the Cause and Origin of the Contagion is to be accounted for, from the Evacuations, the Milk, or the Sweat exhaling from the Bodies of dysenteric Patients.

A third Class of procatactic Causes, concurring to the Production of a Dysentery, is the too liberal and immoderate eating of Fruit, especially if unripe; or if fermentative Liquors are drank after them. The Fruits which have the most direct and immediate Tendency to produce this Disorder, are sweet Cherries, Peaches, and Plums, especially those of the yellow Kind; the frequent bad Effects of which are shewn by *Forestus, in Lib. 2. Obs. 23.* Impure fermentative Liquors, when copiously drank, also contribute to the Production of this Disorder; such as Must, and Ale, which at these Seasons are generally in a bad State. They have also a Tendency to produce the same Effect, when recent, impure, thick, and loaded with Faeces, as also when they are acid; for when Substances of this Kind, furnished with an acrid fermentative Juice, are mixed with the Bile in the Duodenum, they undergo a violent Fermentation with it; by which means not only subtle and highly acrid Vapours are conveyed into the Mass of Humours, but also the Sordes are rendered thicker, and of a more caustic Quality; which, remaining within the Intestines, corrode their nervous Coats, and surprisingly increase the Gripes. To this Collection of impure and sordid Humours stagnating in the Stomach and Duodenum, we are principally to ascribe the Nausea, the Retchings to vomit, and the Vomiting themselves, which sometimes accompany a Dysentery. But those are exempted from these Symptoms, who, without this concurring Cause, are seized with the Disorder; as is obvious from the Dysenteries, which, in the Year 1726. raged in *Germany*, since these, in the Month of *June*, when there is no Fruit to be had, either ripe or unripe, raged with uncommon Fury; but were not, at the same time, attended with Vomiting.

But, with respect to this, we must observe, first, that these Fruits alone are sufficient to generate a Dysentery: When, for Instance, the acrid Vapours, arising from their Fermentation with the Bile in the Stomach, are conveyed into the Mass of Humours, they there corrupt the laudable Juices, and by that means dispose the Habit for generating the Matter of a Dysentery. But this Matter, the Stimulus of the Intestines produced by the Sordes lodged in them concurring as an accidental Cause, is by a certain febrile Motion conveyed from the Surface of the Body to the Intestines. Secondly, we must observe, that, in such Cases, a certain Weakness of the Stomach and Intestines must necessarily be brought on. Hence we may be enabled to assign a Reason, why some great Devourers of Fruit should be sometimes free from Dysenteries; whereas others, who either eat no Fruit at all, or, at most, use them very moderately, are seized with this Disorder. For so long as the Primæ Viæ are strong, and in a good State, the Errors committed will easily be corrected, and the noxious Sordes carried off: Whereas those, in whom these Parts have a weaker Tone, and are filled with an acid Sordes, its perpetual Concomitant, generally pay dear for the Indulgence they grant themselves in this way. Thirdly, very often the immoderate Use of Summer Fruits, and fermentative Liquors, is to be considered as the concurring and additional Cause of a Dysentery; whereas the principal Cause is to be ascribed to an obstructed Perspiration, or a Reception of the Contagion into the Body. In this Case the Symptoms of the Disorder, produced by the united Agency of two Causes, must, in the very Nature of the Thing, be surprisingly exasperated.

Having thus considered the Nature, and productive Causes, of a Dysentery, we now come to take a View of its Prognostics. Dysenteries, then, happening to Women in Childhood, are highly dangerous. And this Disorder is more fatal to old Persons and Children, than to those of a middle Age; as we are informed by *Hippocrates, Sect. 2. Text. 30.* as also by *Sennertus, in Lib. 3.* This Disease generally proves fatal, when it seizes Patients who are cachectic, scorbutic, phthisical, weak, or who by long Afflictions of Mind are become extenuated: It is also highly dangerous, when it seizes Persons who have Worms lodged in their Intestines. Dysenteries, accompanied with Vomiting and a Hiccup, are not without Danger, since they lay a Foundation for an Inflammation of the Stomach. Nor is it a less

inauspicious and unlucky Omen, when green, black, and highly fetid Excrements are discharged, together with a Species of Caruncles; since, according to the 26th Aphor. of the fourth Section of *Hippocrates*, these Signs generally indicate an Ulcer of the Intestines. Dysenteries, in general, are more or less mild, in proportion as the Intestines are more or less exulcerated. It is a highly unlucky Sign, either when Clysters injected immediately slip back again, or when the Anus is so closely shut up, that nothing can be injected; since the former Symptom indicates a Palsy of the Intestines, especially of the Rectum; and the latter a violent spasmodic Stricture of the same Intestine. An unlucky Event is also to be expected, if, whilst the Pulse is weak, the Extremities are cold, and the internal Parts either burnt with Heat, or entirely free from Pain. Alienation of Mind, Inflammation of the Fauces, Aphthæ, or such a total Palsy of the Oesophagus, that the Aliments cannot be swallowed without a certain Noise, are also bad Signs. We must also observe, that this Disorder, especially if joined with a malignant Fever, sometimes makes a quick Progress; and often destroys the Patient within seven, nine, or fourteen Days; whereas at other times it is protracted for many Days, perhaps to the fortieth, or farther; that when it has become inveterate, and of long standing, it either cuts off the Patient; or, if it should happen to terminate without Death, afflicts him very severely, as *Celsus* has observed in the 15th Chapter of his 4th Book; that it often degenerates into a Dropsy or Lientery, according to the Observation of *Hippocrates*, in the sixty-third Aphorism of his sixth Section; as also, that it is frequently changed into the Celiac Passion, a Consumption, or an incurable Hætic.

The Method of Cure.

There is scarce any Disease, in the rational Cure of which the Skill and Judgment of the Physician is more necessary than in a Dysentery; since there is a great Variety of Medicines prescribed in this Disorder, which are so far from being equally beneficial to all Patients, that we often find what is of Advantage to one, proving highly noxious and injurious to another. But, generally speaking, these following are the principal Intentions of Cure: First, that the peccant, acid, and caustic Matter, of whatever Kind, be corrected, and carried through its proper Emunctories. Secondly, that the violent Gripes and severe Spasms of the Intestines be soothed and alleviated. And, thirdly, that the Intestines themselves, whether exulcerated or weakened, should be relieved by proper and well-chosen Remedies.

As for the first of these Intentions, the prudent Physician ought carefully to observe, whether any gross Crudities are lodged in the alimentary Tube; which he may discover partly by a previous Error with respect to Regimen, such as the eating too liberally of Summer Fruits; and partly by the Nausea, Cardialgia, and Retching to vomit, with which the Patient is afflicted. In Cases of this Nature, Physicians highly extol one Scruple, or half a Dram, of *Ipecacuanha*, in Conjunction with Crabs Eyes, exhibited by way of Vomit, in the Beginning of the Distemper; and to be frequently repeated, drinking a large Quantity of warm Water after it. Nor is it less expedient to carry off the gross and acrid Sordes by Stool: This Intention is most effectually answered by the Powder of *Rhubarb* mixed with Absorbents; because, besides its detergent and laxative Effects, it gently corroborates and restores the Tone of the Intestines. The *Pilule Balsamicæ* are also of singular Service in Cases of this Nature, says *Hoffman*, when prepared in the manner directed by *Becher, Stahl*, or myself; and more especially when mixed with Extract of *Rhubarb*.

It will also be expedient to correct the Acrimony, and allay the corroding caustic Quality, of the Sordes in the Intestines; to which end mucilaginous Preparations, given inwardly, will conduce very much; such as the recent Oil of Sweet Almond, expressed without Fire; recent *Sperma Ceti*, which is not rancid; with Decoctions of Barley, Oats, the Shavings of Hartshorn, the Roots of Vipers-grass, and China-root; Emulsions also prepared of sweet Almonds, and Pine-kernels; pectoral Waters, and sweet Whey; as also the Selterian Waters, mixed with Asses Milk. These Medicines excellently answer the Intention by sheathing up the Acrimony, and lubricating the Passages. This Effect is also produced, and the Sordes at the same time evacuated, especially from the large Intestines, by emollient Clysters, prepared of Barley-water boiled with Bran, sweet Whey, the Yolks of Eggs, Oil of Chamomile, sweet Almonds, and Goats Grease.

In like manner we ought to take great Care to correct and carry off, through the Surface of the Body, the subtle Impurities, more or less malignant, that are yet fluctuating in the Mass of Blood, and to mitigate the concomitant Fever, because by this means the Afflux of the Sordes is drawn back from the Intestines to the Surface of the Body. And, for answering this Intention, Absorbents mixed with fixed Diaphoretics are much commended. We may also, in these Cases, exhibit Powders of calcined or philosophically prepared Hartshorn, fossil Ivory, Terra Sigillata, Armenian Bole, diaphoretic and chalybeated

Antimony, Amber, Crabs Eyes, red Coral, Mother of Pearl, and especially mountain Cryſtal; to which, if there be an exceſſive Heat and Thirſt, a ſmall Doſe of Nitre, and, for allaying the Vehemency of the Pains, Caſcarilla-bark, or a Grain or two of the Theriaca cœleſtis, may be added. But particularly, for expelling a malignant Taint got by Contagion, half a Grain of Camphire, mixed with Nitre and Abſorbents, is of great Uſe and Efficacy.

In order to answer the ſecond Intention, and to reſtrain all violent and exceſſive Commotions, ſafe Anodynes, and mild Aſtringents, ought to be uſed alternately with the above-mentioned Medicines. The moſt conſiderable of theſe are the Theriaca cœleſtis, the Aqua theriacalis, the Diaſcordium, the Pilulæ de Styraçe, the Pilulæ de Cynogloſſo, the Pilulæ Wildeganſii, and Sydenham's Liquid Laudanum. But the Anodyne Liquor, mixed with a ſmall Quantity of the Baſamum Vitæ, is a much ſafer and moſt effectual Remedy in more Caſes: I have, ſays *Hoffman*, exhibited about twenty Drops of it, three or four times a Day, with great Succeſs. To this Claſs, alſo, may be referred, on account of their antiſpaſmodic Virtue, the diſtilled Waters of the Lily of the Valley, of the Flowers of the Alder, Lime, Oranges, Mint, black Cherries, and Caſcarilla, in which the above-commended Powders may be exhibited. External Paregorics may alſo be uſed; of which, if the Gripes be very violent, a Liniment may be compounded in the following manner:

Take of the Oil of white Lilies, one Ounce; of the diſtilled Oil of Mint, of Wormwood, (which is an excellent Anodyne) of Nutmegs, and of Caraway, each half a Dram; and of Camphire, one Scruple.

Anointing the Abdomen with this Liniment will be of ſingular Service in abating the Violence of the Pain; and by that means the other Medicines will more eaſily operate on the material Cauſe of the Diſeaſe, and more ſucceſſfully conquer it.

When the peccant Humours are thus carried off, and the Spasms ceaſe, we ſhould next ſuccour the injured Inteſtines; in which, if there yet remain any Ulcers, beſides the Continuation of Abſtergents given inwardly, we ought to uſe frequent Injections of Clyſters, mixed with Goats and Deers Suet, the Yolks of Eggs, Turpentine and *Lucatellus's* Baſam. But it generally happens, that, after we have got the better of the Diſeaſe, there remains a Want of the due Tone in the Inteſtines; which may be reſtored by the Exhibition of corroborative Remedies, the moſt conſiderable of which are, the Bark of the Caſcarilla, exhibited either in the Form of an Eſſence, a Powder, or an aqueous Extract; or even Peruvian Bark reduced to an Eleſtuary, with abſtergent and corroborative Extracts, or the Eſſence of Orange Peel, mixed with the Eſſence of red Gentian and Amber. The external Application of Spirit of Wine rectified is of conſiderable Uſe in this Caſe, as alſo Hungary-water, or the Spirit of the Flowers of Roman Chamomile mixed with the diſtilled Oil of Mint.

The before-mentioned Remedies will not answer the Deſign, if we are not very careful to obſerve a ſtrict Regimen; and we ought to preſerve, as much as poſſible, an equal Temperament of Air about the Patient: For, as all Refrigeration, either by external Cold, or by drinking cold Liquors, is manifeſtly dangerous, ſo exceſſive Heat and Exceſſion, occaſioned either by the Room's being too warm, or by heaping on too many Bed-clothes, muſt increaſe the febrile Heat, and be of as dangerous Conſequence. Therefore Perſons labouring under a Dyſentery, and who ſtudy Eaſe either of Body or Mind, ſhould neither have too warm Beds nor Rooms; and the Liquors they uſe for Drink ought to be tepid, or moderately warm. Malt Liquors are by no means proper for them; but rather gelatinous Decoctions, Infuſions by way of Tea, Whey; and, about the End of the Diſtemper, at proper times, a Draught of generous Wine, for ſtrengthening the Inteſtines. They ought to make uſe of ſoft Aliments, and ſuch as are of eaſy Diſteſtion, as the Yolks of Eggs and Rice, Broths made of Veal, Hens, Roots of Vipers-graſs, Succory, China-root, Juice of Plantain, and bruſed Crabs, which with ſome are in great Repute for conſolidating the Ulcers of the Inteſtines.

The beſt way to prevent a Dyſentery, when it becomes contagious and epidemical, is to ſhun all Exceſſes, and ſudden Changes of the Air, and not to come nigh ſuch as labour under the Diſtemper. A Man may with greater Certainty preſerve himſelf from that Species of it which derives its Source from other Cauſes, provided he guards againſt the Injuries of the Air, abſtains from eating Summer Fruits, eſpecially if they be unripe, and keeps his Body ſoluble. And, at the time when the Dyſentery rages, a Man ought to take all proper Care to cover himſelf in the Night-time, leſt Perſpiration be obſtructed. And, if he is to be purged, he ought not to make uſe of acrid Purgatives; becauſe, as I have before obſerved, they have a great Tendency to excite the Contagion, and bring on the Diſeaſe.

CAUTIONS to be obſerved in PRACTICE.

Perſons labouring under a Dyſentery ought by all means to abſtain from groſs Opiates, Aſtringents, and Styptics, ſince theſe are ſo far from alleviating, that they aggravate the Diſtemper; for, if they be exhibited at the Beginning of the Diſeaſe, the cauſtic Matter, lodged in the Habit, induces a great Uneaſineſs about the Præcordia, Hiccups, Aphthæ, and dangerous Inflammations: If at the Height of the Diſorder, when the Strength of the Patient is much impaired and weakened, they eaſily induce a Gangrene, and change the preſent Inflammation into a mortal Sphacelus: See *Thonerus Obſ. Lib. 3. Obſ. 8. p. 167. M. N. C. dec. 2. anno 3. Obſ. 88.* Laſtly, the ſame Medicines, being adminiſtered on the Decline of the Diſeaſe, create ſpaſmodic and œdematous Diſorders, Languors, and a Fever. *Galen, 2 Simpl. 12. & 14.* informs us, that a Dyſentery, unreaſonably ſtopped, has been ſucceeded by Melancholy; and, according to *Holler*, by an Epilepſy and Pleureſy. *Martinus, de Morb. Meſent.* alſo informs us, that it brings on Inflammations and Abſceſſes in the Meſentery, with many dangerous Diſtempers; and even haſtens Death itſelf, which may be confirmed by many Examples, according to *Crato, Conſil. 22. Lib. 5.* In which Caſe it is expedient to provoke the obſtructed Evacuations by Stool, by Clyſters, and prevent the threatening Inflammation by Abſorbents and fixed Diaphoretics, taken inwardly.

Remedies taken from the Animal Kingdom, which are ſedative and anodyne, may be uſed with the greateſt Safety to the Patient in ſuch Diſtempers. Among the Number of theſe Remedies we reckon the Spine and Liver of Vipers, the Shavings of the Teeth of the Sea-horſe, or Sea-cow, the Penis of a Whale, and the Powder of a human Secundine dried; all which, being mixed with lenient bezoardic Powders, are of excellent Uſe in compoſing the ſpaſmodic and convulſive Strictures of the Inteſtines.

Tho' gentle and lenient Laxatives are known to afford great Relief in a Dyſentery; yet we ſhould take care to uſe them with the utmoſt Caution. For, firſt, the more acrid Cathartics, which have a Mixture of Jalap, Scammony, and Coloquintida, act like ſo many Poisons in exaſperating the ſpaſmodic Motions; and Mercurial Preparations produce the ſame Effect. For this Reaſon I cannot but wonder at ſome Writers, and particularly *Mr. Boyle*, who recommends *Mercurius dulcis* in a Dyſentery; for it is of ſuch a Nature, that, when mixed with acrid Salts, which in this Diſtemper always abound in our Bodies, it is rendered cauſtic. Laxatives which are ſweet, and eaſily undergo a Fermentation, are by no means proper in this Diſorder; and therefore a Patient ought to abſtain from Decoctions of Prunes, Sena-leaves, and laxative Syrops. Though the Pilulæ Polycheſtæ, and temperate baſamie Pills, exhibited in ſmall Doſes frequently are of ſingular Service, the firſt Days of the Diſeaſe, for correcting and evacuating; yet when the Diſtemper ſeizes plethoric Perſons with Heat, and a quick Pulſe, I have frequently obſerved theſe Pills of dangerous Conſequence. In ſuch a Caſe, it will be better judged to abſtain from all Laxatives, that raiſe even the leaſt Commotion of the Humours, and rather attempt a gentle Evacuation, by a Decoction prepared of Whey, Tamarinds, and Rhubarb. When the Diſeaſe begins with violent Gripes in the lower Belly, I uſually preſcribe Anodynes, in Conjunction with Evacuants; and, for this End, I generally exhibit, with good Succeſs, two or three Doſes, in twenty-four Hours, of the Pilulæ Aloephanganæ, or rather *Becherianæ*, mixed with an equal Quantity of the Pilulæ de Styraçe.

And I have frequently obſerved, that a laxative Infuſion of Manna, taken at the End of a long-protracted Dyſentery, and when all dangerous Symptoms have ceaſed, has again brought on the Gripes, and other noxious Diſtempers: The Cauſe of ſuch a Cataſtrophe muſt be owing to the Deſtruction of the Tone of the Inteſtines, which was before impaired by the violent Spasms; and, therefore, the beſt Way to reſtore this loſt Strength, is by an Exhibition of proper Corroboratives.

The Root of Ipecacuanha, which by many is accounted a Specific againſt a Dyſentery, ſee *A. N. C. Dec. 2. Anno 10. Obſ. 115.* does not want its Uſe, though it very frequently produces unhappy Effects. It may be exhibited with the greateſt Succeſs to robuſt Patients, as well as to thoſe of a moiſter Nature, ſuch as Women.

An Exhibition of it may be alſo expedient, when a redundant Collection of Crudities adheres in the Primæ Viæ, or when a contagious Miasma is recent, and afflicts the Patient with a Nauſea, a Retching to vomit, an Uneaſineſs about the Præcordia, and a cutting Pain. It will be proper to adminiſter a Remedy of this Sort, during the firſt Days of the Diſtemper; and if the Patient be ſeized with a Plethora, or Fever, it will be expedient previously to open a Vein. But when the Diſeaſe becomes more inveterate, and Stools which are both bloody and mucous are diſcharged, it may then be exhibited; for it checks them a little, though, at the ſame time, it creates a greater

greater Uneasiness about the Præcordia; so that we frequently find it necessary to restore the Evacuation by Stool, by means of emollient Clysters. Lastly, if a Redundancy of Crudities be lodged in the Primæ Viæ, it will be most proper to exhibit half a Dram of this Root, with a laxative Decoction prepared of Manna, Rhubarb, and Tamarinds.

We should never make use of such Remedies as stimulate the Intestines, such as all neutral and digestive Salts, as the Tartarus Vitriolatus, the Arcanum Duplicatum, and the Salts obtained from hot mineral Waters. And yet Nitre, as also Sal Prunellæ, which is greatly extolled by *Riverius* for its refrigerating and temperate Quality, is sometimes recommended as a proper Remedy; and it should be mixed with absorbent Powders, if the Patient is either oppressed with Heat and Thirst, or of a choleric and bilious Constitution.

It is the general Opinion of many Physicians, and even of *Hippocrates* and *Galen*, as also of *Martian in Comment. in Lib. Hippocratis de Ratione Viæ in Acutis*, that Venesection ought not to be used in a Dysentery: And this may be laid down as a Maxim to be observed in Practice by our Countrymen (the *Germans*). But, after a long Course of Experience, I can affirm, that if the Patient is plethoric, and accustomed to drink Wine, and is, at the same time, seized with a continual Fever, together with the Dysentery, it is highly necessary to open a Vein, at the Beginning of the Distemper: For it is vain to dread a Diminution of Strength by Venesection, since not only more People, who labour under a Dysentery, die of an Inflammation of the Intestines, but also plethoric Subjects, when oppressed with continual Fevers, die of Stagnations, Gangrenes, and Sphacelus, which are occasioned by nothing but a Redundance of Blood. And, therefore, Venesection is the most proper Remedy for preventing Distempers of such a dangerous Consequence. And there are not wanting Testimonies of the most approved Writers, who greatly extol this kind of Remedy. Thus *Julius Cæsar Claudinus* informs us; that he has cured many of a Dysentery, by letting Blood. And *Riverius*, *Cent. 2. Obs. 37. & 44.* *Amatus Lusitanus*, *Cent. 2. Obs. 48.* *Altomarus de Medend. Corp. human. Malis Cap. 74.* *Botallus*, *Cap. 4.* *Sydenham*, *Opus. Med. Cap. de Dysent.* and, among the more modern Authors, *Pujoli*, have supplied us with Observations of this Kind.

I have been told by a Physician, who attended a Camp, that in curing a Dysentery, which raged there, upon the first Suspicion of the Contagion, and even when the Signs appeared pretty evidently, a Diaphoretic, prepared of calcined and philosophically prepared Hartshorn, of diaphoretic Antimony, of the volatile Salt of Hartshorn, and Saffron, each ten Grains, exhibited with a warm Vehicle, produced excellent Effects, by disposing the Body to Sweat, and, after a Repetition of some Doses, checking the pernicious Violence of the Distemper. But should a great Quantity of Sordes be lodged in the Primæ Viæ, I am inclined to think, that a Remedy of this kind may be much more safely used after the previous Exhibition of a proper Evacuant. It is a very common and fatal Mistake of Physicians, when, in order to cure a violent Dysentery, they make an immoderate Use of the alexipharmic and theriacal Remedies, such as Electuaries made of Diascordium, Theriaca Andromachi, Mithridate, and the Pulvis Pannonicus ruber, alexipharmic Essences, and bezoardic Tinctures; for I have frequently observed, that the Symptoms of an epidemic Dysentery have been exasperated by too large an Exhibition of such hot and dry Remedies; and that Fevers, a Thirst, and great Heat within, have been occasioned by the Use of them: And our Reason may inform us, that Medicines, which raise Commotions in the Blood, can by no means be proper Remedies in a Disease which derives its Source from a long-continued inward Heat, which changes the sweet and temperate Humours of the Body into those of the bilious and salino-sulphureous Quality.

In a Dysentery, many Physicians, in order to correct the Acrimony of the Humours, to soften the Malignity of the Ulcers, and consolidate the corroded Substance of the Intestines, make too much use of glutinous and mucilaginous Remedies, as well internally as externally, especially in the way of Clysters; such as the Milk of various Animals, Decoctions of Sheeps-feet, Solutions of Gum Tragacanth and Gum Arabic, Jellies of Animals, Sperma Ceti, and the Root of the larger Comfrey. Though these Remedies should not be entirely exploded, yet Physicians should observe a proper Medium, and proceed with great Caution in exhibiting them; for these glutinous Substances, when injected into the Anus, produce a certain Vicidity, render the Ulcers much worse, and hinder their Cicatrization: And it frequently happens, that, upon a Suppression of the Flux, they occasion a greater Collection of Sordes in the Belly, which induces more violent Spasms and Gripes.

Milk alone is not a proper Remedy in a Dysentery, especially if there be a Redundance of Sordes in the Primæ Viæ, because of the Coagulum which it easily undergoes there, and the Symptoms which are to be dreaded from

thence; but if it be boiled and mixed with pure running or Fountain-water, or even *Selter* Mineral-waters, it will be of considerable Use. And Whey, which is so highly commended by *Hippocrates* for its Efficacy in moderating Heat and Thirst, and for correcting, in some measure, the Acrimony of the Humours, is no contemptible Remedy in a Dysentery, and is much extolled by *Raymundus A Fortis*, *Consult. Cap. 2.* and *Sydenham*. Besides, pure Fountain-water, either chalybeated, or boil'd with the Sea-unicorn or calcin'd Hartshorn, or Bole, is an excellent Drink for Patients of all Ages for allaying Thirst and Heat, and diluting the acrimonious Humours. *Sydenham's* Decoction may be also very proper in this Case, which is made of Fountain-water, calcin'd Hartshorn, and the Crum of Bread made of the finest Flour. And 'tis well known how much celebrated the Waters in *Italy* are for curing Dysenteries; such are those of *Tutia*, *Villa*, and some others; concerning which see *Fulopius de Thermis*, and *Cæsalpinus in Quæst. Med. 21. L. 2. de Medic. Facul. Cap. 10.* The German Waters are of excellent Use in curing Dysenteries, as you may see *A. N. C. Dec. 1. Anno 2. Obs. 213.* As there is no kind of Distemper so loathsome, nasty, and abominable, or which infects and vitiates the Air with putrid Exhalations so much as a Dysentery, we ought to direct the Patient not to discharge his Stools in the same Room he sleeps in, but rather in some one adjoining to it, if it be tolerably warm, and he has Strength to retire to it; and they should be forthwith removed. The noxious Quality of the Air should also be corrected by Suffumigations of Mastich and Amber. For this Purpose I also warmly recommend to my Patients, in all contagious Diseases, to have Camphire about their Necks, if they can possibly bear the Smell of it. If Persons who labour under this Disease, have Strength to get out of Bed, it is proper for them to have some Vessel convenient for receiving the Excrements under their Beds, upon which they may sit down, and ease Nature, provided it be first tinctured and seasoned with a warm Decoction of the Flowers of Mallows, Elder, and Fenugreek-seed.

There is scarcely any Disease, wherein a Refrigeration of the Feet is attended with such dangerous Consequences as a Dysentery. This is confirmed by Experience, and we see it frequently brings on Death. By this means I have often observed an Inflammation of the Intestines, which ended in Death, brought on; for the Feet being refrigerated, the Skin is contracted, and the peccant Humours flow in greater Quantities into the Intestines: For which Reason it is highly expedient always to keep warm Bricks at the Soles of the Feet. Nothing is a greater Affliction to Persons labouring under this Distemper, than the perpetual Desire of going to Stool, and a most troublesome Tenesmus, in which they evacuate either nothing at all, or a very small Quantity of Mucus, more or less mixed with Blood: In which Case, the most efficacious Remedy is a Fomentation, prepared of Milk, in which Chamomile and Elder-flowers are boiled; or a Portion of the Mucilage of Fleawort, or of Quinces, or of Oil of sweet Almonds and the Yolk of Eggs, mixed with Saffron, injected into the Anus. Those who, after a long-protracted Dysentery, begin to recover, and gather Strength, in order to regain the former Strength of their Stomach and Intestines, which has been much weakened by the Disease, ought to be particularly careful in observing a strict and exact Regimen; for I have frequently observed a Dysentery, slow Fevers, a Consumption, and other chronical Distempers, follow a Neglect of this Kind. *Frederic Hoffman.*

The incomparable *Sydenham*, treating of the epidemical Distempers which raged in 1669. 1670. 1671. and 1672. gives the subsequent admirable Observations, relative to a Dysentery.

In the Beginning of *August* 1699. the dry Gripes appeared, and, during the Course of that Autumn, equalled, or rather exceeded, the Dysenteries which began to appear with them, with respect to the Numbers they attacked. Sometimes a Fever accompanied them, and sometimes not; but they exactly resembled the Gripes which attended the Dysentery, that prevailed at the same time; for they were extremely violent, and attacked at Intervals, but no natural or mucous Stools succeeded. They prevailed equally with the Dysentery throughout this Autumn; but appeared no more epidemically in the following Years of this Constitution. As these dry Gripes differ little either in their Nature, or the Method whereby they are to be cured, from the Dysentery, I proceed to treat of this last Distemper.

The Dysentery generally makes its first Attack, as it did at this time, in the Beginning of Autumn, and disappears for a time, upon the Approach of Winter; but when a Number of Years tend much to produce it epidemically, it may seize a few at any other time; and abundance at the Beginning of Spring, or, perhaps, earlier, if warm Weather immediately succeeds a severe Frost, that went off suddenly. And though very few may be attacked with it, yet as this happens at so unusual a Time, I am well convinced, that the Constitution eminently favours this Disease. And thus it happened in those Years wherein the Dysentery was very epidemical;

mical ; for sometimes it seiz'd a few towards the End of Winter, or Beginning of Spring.

It sometimes begins with a Chilnefs and Shivering, immediately succeeded by a Heat of the whole Body, as is usual in Fevers ; and, soon after, Gripes and Stools succeed : It is indeed, frequently, not preceded by a Fever ; but the Gripes attack first, and Stools soon ensue : Intolerable Gripings, however, and a painful Descent, as it were, of all the Bowels, always accompany the Stools, which are very frequent, and all mucous, not excrementitious, unless sometimes an excrementitious one intervenes, without any considerable Pain : The mucous Stools are generally streak'd with Blood ; but sometimes not the least Blood is mixed with them, throughout the whole Course of the Disease : Nevertheless, if they be frequent, mucous, and accompanied with Griping, the Distemper may as justly be intitled a Dysentery, as if Blood was discharged along with them. Further, if the Patient be in the Vigour of Life, or has been heated by Cardiacs, a Fever arises, and the Tongue is covered with a thick white Mucus ; and, if he has been very much heated, it is black and dry ; great Loss of Strength, Lowness of Spirits, and all the Signs of an ill-conditioned Fever, are joined with it. This Disease occasions extreme Pain and Sicknefs, and greatly endangers Life, if unskillfully treated ; for when the Spirits are much exhausted, and the vital Heat diminished, by frequent Stools, before the Matter causing the Disease can be expel'd from the Blood, a Coldness of the Extremities ensues, and the Disorder terminates in Death in a little time, as that in which acute Diseases prove fatal : But if the Patient escapes for this time, several Symptoms, of a different Kind, succeed : For Instance ; sometimes, in the Progress of the Disease, instead of those sanguineous Filaments which are usually mix'd with the Stools in the Beginning, a large Quantity of pure Blood, unmix'd with Mucus, is voided at every Stool ; which, as it manifests an Erosion of some of the larger Vessels of the Intestines, threatens Death. Sometimes, also, the Intestines are affected with an incurable Gangrene, caused by the violent Inflammation arising from the plentiful Afflux of the hot and sharp Matter to the affected Parts. Moreover, at the Decline of the Disease, *Aphthæ* frequently affect the internal Parts of the Mouth, especially when the Patient has been kept very hot for a long time, and the Evacuation of the peccant Matter check'd by Astringents, the Matter of the Disease not having been first carried off by Cathartics : These *Aphthæ* generally portend approaching Death.

But if the Patient survive the before-mentioned Symptoms, and the Disease proves lasting, the Intestines, at length, seem to be affected successively downwards, till it be driven to the Rectum, and ends in a Tenesmus ; upon which Occasion, the natural Stools (otherwise than it happens in a Dysentery) occasion great Pain in the Bowels, the Fæces, in their Passage thro' them, abrading the small Intestines, still very tender, whereas the mucous Stools only offend the Rectum, during the time that the Matter is form'd therein, and discharg'd. But tho' this Disease often proves mortal in grown Persons, and especially in the Aged, it is, nevertheless, very mild in Children, who have it sometimes for some Months, without any Inconvenience, provided the Cure of it be left to Nature.

What Similitude there is between the Dysentery here described, and the endemic Dysentery of *Ireland*, I know not, having hitherto had no Account of the latter. Neither have I discovered how far this Dysentery resembles those happening in other Years here in *England*. For possibly there may be as many Species of Dysenteries, as there are Kinds of Small-pox, and other epidemical Distempers, peculiar to different Constitutions, and which may therefore require a different Method of Cure in some Particulars. Nor should this Procedure of Nature so much raise our Wonder, since 'tis universally acknowledged, that the further we penetrate into any of her Works, the clearer Proofs we have of the exceeding Variety, and almost divine Contrivance of her Operations, which far surpass our Comprehension. So that whoever has undertaken to fathom these Matters, and search after the various Operations of Nature, will find himself disappointed in his Expectation, and not succeed in the Attempt ; and besides, if he be a judicious Person, he may expect to be censured for making the most useful Discoveries, for no other Reason but because he was the first Inventor.

It must be further observ'd, that all epidemical Distempers, at their first Appearance, as far as can be judg'd from their Phenomena, seem to be of a more spirituous and subtile Nature, than when they become older ; and, that the more they decline, the more gross and humoral they daily grow : For whatever kind of Particles those are, which, being intimately mix'd with the Air, are esteem'd to produce an epidemical Constitution, 'tis reasonable to conclude, that they are possessed of a greater Power of acting at their first Appearance, than when their Force is weaken'd. Thus, in the Infancy of the Plague, scarce a Day passed but some of those who were seized with it, died suddenly in the Streets, without having any previous Sicknefs ; whereas, after it had continued for

some time, it destroy'd none, unless a Fever and other Symptoms preceded : Whence it clearly follows, that this Disease, tho' it then took off fewer Persons, was more violent and acute in the Beginning, than afterwards, when its Influence was more extensive.

In like manner in the Dysentery under Consideration, all the Symptoms were most severe in the Beginning, tho', with respect to the Numbers affected thereby, it increased daily, till it came to its Height, when, consequently, more Persons died than in the Beginning : Yet the Symptoms in the Beginning were more violent than in its Height, and much more so, than in the Decline thereof : And, at first, abundance more perished, in proportion to the Numbers of those affected. To this may be added, that the longer it continued, the more humoral it seemed to be : For Instance, the first Autumn, several had no Stools at all : But, with respect to the Severeness of the Gripings, the Violence of the Fever, sudden Decay of Strength, and other Symptoms, it much exceeded the Dysenteries of the following Years. And further, the Dysentery accompanied with Stools, which appeared first, seemed to be of a more spirituous and subtile Nature, than those that succeeded ; for in the first Dysenteries, the Inclination to Stools and Straining were greater and more frequent ; and the Stools, especially the natural ones, less, both in point of Quantity and Frequency : But generally as the Disease proceeded, the Gripings abated, and the Stools became more natural ; and, at length, the epidemical Constitution declining, the Gripes were scarce felt, and the excrementitious or natural Stools exceeded the mucous ones in Number.

To proceed, at length, to the curative Indications : After having attentively considered the various Symptoms attending this Disease, I discovered it to be a Fever of a particular Nature, turned inwards upon the Intestines ; by means of which, the hot and sharp Humours that were contained in, and agitated by the Blood, were thrown off by the meseraic Arteries, upon these Parts, whence Blood was discharged by Stool, the Mouths of the Vessels being opened by the Impulse of the Blood and Humours flowing thereto : And by the violent and frequent Efforts of the Intestines, to discharge the sharp Humours that continually vellicate them, the Mucus, wherewith their Inside is naturally covered, is discharg'd more or less copiously at every Stool. The Indications of Cure, therefore, seem to be obvious : For nothing more appears to be necessary, than, first, to make an immediate Revulsion of these sharp Humours by Bleeding ; and, afterwards, to reduce the Remainder to a due Temperature ; and, then, to evacuate them by Purgatives.

I therefore used the following Method : Upon being call'd in, I immediately directed Bleeding in the Arm, gave an Opiate the same Evening ; and, the next Morning, this gentle purging Potion, which I frequently use :

Take of Tamarinds, half an Ounce ; the Leaves of Sena, two Drams ; Rhubarb, one Dram and an half : Boil them together in a sufficient Quantity of Water, to leave three Ounces of the strain'd Liquor ; in which dissolve Manna, and solutive Syrup of Roses, of each an Ounce : Mix them together for a purging Potion, to be taken in the Morning early.

I commonly prefer this Draught to an Electuary made of a small Quantity of Rhubarb ; for tho' this Root be exhibited to evacuate Choler, and acrimonious Humours, yet, unless a proper Quantity of Manna or solutive Syrup of Roses be mixed with it, to quicken its Operation, it avails little in curing the Dysentery. And because it is certain, that the most gentle Cathartics sometimes increase the Gripings, and occasion a general Depression and Disorder of the Spirits, by the adventitious Commotion they raise in the Blood and Humours, during their Operation, I therefore commonly give an Opiate earlier than is usual after Purgings ; for Example at any Hour in the Afternoon, provided it seems to have done operating : And this I do, in order to quiet the Disturbance I have raised. I repeat the Cathartic twice more, interposing a Day between each, and exhibit an Opiate after every Purge, at the Time above-mentioned ; and direct it to be repeated Morning and Night, on the intermediate Days, in order to diminish the Violence of the Symptoms, and obtain a Respite, whilst I am employed in evacuating the peccant Humour. The Opiate I principally used was liquid Laudanum, in the Quantity of sixteen or eighteen Drops, in any cordial Water, for a Dose.

After Bleeding and Purgings once, I allowed some mild Cardiac to be taken between whites, throughout the Course of the Disease, as Plague-water, compound Scordium-water, and the like : For Instance,

Take of the distilled Waters of black Cherries and Strawberries, of each three Ounces ; Plague-water, compound Scordium-water, and small Cinnamon-water, of each an Ounce ; prepared Pearl, one Dram and an half ; fine Sugar,

Sugar, enough to sweeten it; and half a Dram of damask Rose-water, to give it an agreeable Taste: Mix all together for a Julap; of which let the Patient take four or five Spoonfuls, when faint, or at Pleasure.

But I used these principally, in aged and phlegmatic Persons, in order to raise their Spirits in some measure, which are much depressed in this Disease by the Violence of the Stools. Their Drink was Milk, boil'd with three times as much Water, or the white Decoction, as it is called, made of burnt Hartshorn, and the Crumb of white Bread, of each two Ounces, boil'd in three Pints of Water to two; and afterwards sweetened with a sufficient Quantity of fine Sugar, and sometimes Posset-drink; or, where the Loss of Spirits required it, they drank cold, for their common Drink, a Liquor made by boiling half a Pint of *Canary*, and a Quart of Spring-water together. Their Diet was sometimes Panada, and sometimes Broth, made of lean Mutton. I kept the Aged more in Bed, and allowed them a freer Use of any cordial Water they had been accusom'd to, than was proper for Children, or young Persons. This Method exceeded all those I had hitherto experienced, in conquering this Disease, which, for the most part, yielded to the third Purge.

But, if it proved so obstinate as not to yield to these Means, I gave the former Opiate every Morning and Evening, till it went quite off; and the more effectually to conquer it, I have ventur'd to give a larger Dose of Laudanum, than that above specified, that is, twenty-five Drops every eighth Hour, if the former Dose proved too weak to stop the Flux. I likewise ordered a Glyster, made of half a Pint of Milk, and an Ounce and half of *Venice Treacle*, to be injected every Day, which is, in effect, an admirable Remedy in all kinds of Loosenesses. Nor indeed have I hitherto found the least Inconvenience happen from so frequent a Repetition of Opiates, (whatever Mischief the Unexperienced imagine will follow from hence) tho' I have known several who have taken them every Day, for some Weeks, when the Disease prov'd inveterate. But it must be noted here, that when the Flux amounts only to a Looseness, omitting Bleeding and strong Purging, it will suffice to give half a Dram of Rhubarb, more or less, in proportion to the Strength of the Patient, every Morning, made up into a Bolus, with a sufficient Quantity of *Dioscorium*, adding to it two Drops of Oil of Cinnamon; and exhibiting an Opiate the following Evening: For Example,

Take of small Cinnamon-water, one Ounce; liquid Laudanum, fourteen Drops: Mix them together.

In the mean time use the Diet above specified in the Cure of the Dysentery, and inject the Glyster there commended, every Day, if there is Occasion.

Now to evince the Excellence of the Method here deliver'd by a single Instance; for I will not trouble the Reader unnecessarily with many: The Rev. Mr. *Belke*, Chaplain to the Earl of *St. Albans*, being seized with a violent Dysentery, during this Constitution, sent for me to attend him, and he was recovered by this Method.

Children affected with this Disease are to be treated in the same manner, but the Quantity of Blood to be taken away, and the Doses both of the Purgative and Opiate must be diminished in proportion to their Age; so that, for Instance, two Drops of liquid Laudanum is a sufficient Dose for a Child of a Year old.

The liquid Laudanum, which I constantly use, as above intimated, is prepar'd in the following manner:

Take of *Spanish Wine*, one Pint; Opium, two Ounces; Saffron, one Ounce; Cinnamon and Cloves, reduc'd to Powder, of each one Dram: Infuse them together in a Bath-heat for two or three Days, till the Tincture becomes of a due Consistence; and after straining it off, set it by for Use.

I do not indeed judge that this Preparation is to be prefer'd to the solid Laudanum of the Shops, on account of its Virtues; but I give it the Preference for its more convenient Form, and the greater Certainty of dividing it into Doses, as it may be dropt into Wine, a distill'd Water, or any other Liquor. And here I cannot forbear mentioning, with Gratitude, the Goodness of the Supreme Being, who has supplied afflicted Mankind with Opiates for their Relief; no other Remedy being equally powerful to overcome a great Number of Diseases, or to eradicate them effectually. And, notwithstanding there are Persons who endeavour to persuade the Credulous, that almost all the Virtues of Opiates in general, and of Opium in particular, chiefly depend on their artful Preparation of them; yet whoever puts it to the Test of Experience, and uses the simple Juice as frequently, and as cautiously, as any of its Preparations, will certainly find very little Difference between them, and be convinced, that the wonderful Effects

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of Opium are owing to the native Goodness and Excellence of the Plant that affords it, and not to the Dexterity of the Artift. Moreover, this Medicine is so necessary an Instrument in the Hands of a skilful Person, that the Art of Physic would be defective and imperfect without it; and whoever is thoroughly acquainted with its Virtues, and the manner of using it, will perform greater things than might reasonably be expected from the Use of any single Medicine. For it must certainly argue Unskilfulness, and a very slender Knowledge of its Virtues, to understand only how to apply it, in order to procure Sleep, ease Pain, and check a Looseness, since it may be suited to several other Purposes, and is, indeed, a most excellent Cardiac, not to say the only one hitherto discover'd.

Dysenteries were in general to be treated in this manner: But it must be observed, that as this Dysentery was of a more spirituous and subtile Nature at first, when it appear'd, than in the subsequent Years, it yielded less readily to Purgatives, than to those Medicines that diluted and cooled the Blood, as well as the sharp Humours separated from it into the intestinal Duct: And therefore, during the first Autumn, wherein the dry Gripes and Dysentery prevail'd, I always used the following Method with Success for both, till colder Weather succeeded, when I found it less effectual, even in the same Year; and in the following Years, when the Disease had lost much of its Subtlety, and prov'd more humoral, it availed not at all. I proceeded in this manner: If the Patient was young, I directed Bleeding in the Arm, and, an Hour or two after, a large Quantity of Liquor to be taken, with a View of diluting, according to the Method I practis'd in the *Cholera Morbus*; except that here, instead of Chicken-broth or Posset-drink, I substituted Whey to be drank cold, in the same Quantity as in that Disease, but ordered the Glysters of the same to be injected warm, without an Admixture of Sugar, or any other Ingredient. I always found the Gripes and bloody Stools go off upon the Discharge of the fourth Glyster. This Business being over, and all the Whey evacuated, which, if the Patient diligently pursues it, takes up only two or three Hours, he was immediately put to Bed, where he soon fell into a spontaneous Sweat, (occasion'd by the Mixture of the Whey with the Blood) which I ordered to be continued for twenty-four Hours, but not at all provok'd by Medicines; allowing him nothing more than warm Milk during this Time, which he likewise used, without any thing else, three or four Days after he left his Bed. If a Relapse happens, either from rising, or leaving off the Milk-diet, too soon, the same Process must be repeated. Now if this Method be certain and speedy, no judicious Person will reject it, because it does not come recommended with a pompous Multiplicity of Remedies.

That a Fever, attended with such Symptoms as we have enumerated above, happens in those Countries, and at those Times, wherein Dysenteries prevail epidemically; and that the Method of Cure, here delivered, is agreeable thereto; is still further confirmed by the Testimony of Dr. *Butler*, who accompanied his Excellency *Henry Howard*, Ambassador from his Britannic Majesty to the Emperor of *Morocco*, in *Africa*. This Gentleman assured me, that the Dysentery raged at that time epidemically, in that Kingdom, as it generally does; and that the Fever accompanying it, resembled the Fever above described, which he treated according to our Method, with constant Success, both at *Tangier*, and other Places, whether the Patients were *Moors* or *Englishmen*. Now neither of us was obliged to the other for this Method; but, being at so vast a Distance we both casually fell upon the same. And he also informed me, that the Method of diluting plentifully in the Dysentery succeeded admirably in those Parts; and, indeed, I conceive it reasonable, that this Method should be attended with greater Success in that hot Climate, than in *England*.

In the first Autumn wherein this Constitution prevail'd, Dr. *Cox*, being seiz'd with a very acute Dysentery, by my Advice, followed the above-mentioned Method, whereby he was soon, safely, and expeditiously cured: For after the Discharge of the fourth Glyster, at which time I happened to be with him, the Gripes and bloody Stools disappear'd; and there was occasion for nothing further to complete the Cure, except keeping his Bed for the Time above specified, and using a Milk-diet. And this Gentleman afterwards recovered several by the same Method, at the Close of Autumn; but the following Year, making Trial of it again, he found it fail him.

We have already taken notice, that when this Disease runs to a great Length, it often affects all the Intestines gradually downwards, till at length it fixes in the Rectum, with a continual Inclination to go to Stool; whereby only a Mucus, ting'd with Blood, is discharged. In this Case, I conceive, it would be useless to attempt the Cure, either by any of the above-mentioned Methods; by detergent, agglutinant, or astringent Glysters, which are ordinarily injected, according to the different States of the supposed Ulcer; or by Fomentations, Baths, Fumigations, and Suppositories, suited to the same Purposes: For 'tis apparent, that this Disorder does not

proceed from an Ulcer of the Rectum, but rather from this, that in proportion as the Intestines recover their Tone, they deposit the Remains of the morbid Matter on this Part, which, being continually irritated thereby, discharges Part of the mucous Matter at every Stool, wherewith the Inside of the Intestines is naturally covered. For this Reason, the Part affected must be strengthened to expel the small Remains of the morbid Matter, as the other Intestines have already done. And this Purpose is only answered by such Medicines as strengthen the Body in general; for the Application of any kind of Topic to the Part affected, being incommodious, will rather debilitate than strengthen it. The Disease, therefore, must be borne, till the Strength can be recovered by a restorative Diet, and the free Use of some particularly grateful cordial Liquor; for the Tenefimus will go off spontaneously, in the same Degree as the Strength returns.

It sometimes happens, tho' very seldom, that a Dysentery, ill-treated in the Beginning, afflicts a particular Person for several Years, the whole Mass of Blood having obtain'd a dysenteric Disposition; whence the Intestines are continually supplied with hot and acrimonious Humours, whilst the Patient, in the mean time, continues pretty capable of following his Business. I met with an Instance of this lately in a Woman, who was perpetually afflicted with this Disease, during the three last Years of this Constitution; and as she had Abundance of Medicines before applying to me, omitting other Remedies, I only directed Bleeding, and was encouraged to repeat it frequently, at considerable Intervals, as well from the Colour of the Blood, which resembled that of pleuritic Patients, as from the great Relief the Patient obtained by every Bleeding: By which means she at length recovered her former Health.

Before I finish, this Particular is to be remarked; which is, that tho' in those Years, wherein Dysenteries rag'd so epidemically, the above-mention'd Evacuations were absolutely necessary to be made, previous to the Use of Laudanum; yet in any Constitution, which has a less Tendency to this Disease, they may safely be omitted, and the Cure completed by the shorter Method, that is, by exhibiting Laudanum alone, in the manner already delivered. And let this suffice for the Dysentery. Sydenham.

The illustrious Author above-quoted was too honest a Man to disguise any Hints he had taken from practical Authors, and conceal their Names; otherwise one would be inclin'd to think, that Alexander Trallian had furnish'd him with Part of the Doctrine he lays down, relative to the Cure of a Dysentery. This Author insists strongly on the Excellencies of Milk, and recommends Bleeding in that Kind of Dysentery, which he calls Rheumatism, to two Heminas. He very justly condemns the rash and undistinguishing Practice of some, who immediately throw in Opiates; for these do but bind up the Humours for a time, affect the Head and Strength, and occasion a more violent Return of the Flux afterwards. He takes notice, that in a true Dysentery, where there is an Exulceration, Matter is often mistaken for Slime: And I believe, says Dr. Friend, we often meet with Mistakes, which are quite the reverse, of Slime being taken for Matter.

Pliny recommends quenching hot Iron in Water for a Dysentery. Dioscorides quenches it in Wine too for the like Purpose.

Avenzoar gives an account of being cured of a Dysentery by wearing an Emerald upon his Belly; and, in the like Case, he advises the giving it in Powder, to about six Grains.

Dr. Barry, in his Treatise of a Consumption, gives a Case of a Person cured of a febrile Dysentery, by taking no Nourishment for three Weeks, but the Whites of new-laid Eggs, dissolved in the white Decoction prepared with Lime-water. By these Means, and the Use of Oil of sweet Almonds, and Sperma Ceti, he was quickly cured, though before despair'd of.

Jo. Ger. Hen. Kramerus assures us, we may depend upon a very good Effect, in the Cure of a Dysentery, from a Decoction of common Millet-seed, call'd St. Ambrose's Syrup.

According to Heurnius, in his Commentary on the Aphorisms of Hippocrates, L. 4. Aph. 5. Patients who have a Leg, or any other Member, amputated, are sometimes seized with a bloody Dysentery. See ARTHRITIS, INTESTINA, and DIARRHOEA.

DYSEPULOTOS, δυσπλωτος, from δύς, importing Difficulty, and πλῶ, a Cicatrix. An Epithet for an Ulcer which is difficult to be heal'd. Dyspuloticus is the same.

DYSEXANALOTOS, δυσαναλωτος, from δύς, importing Difficulty, and ἀναλίσκω, to consume. An Epithet for any thing not easily consumed, or digested. Castellus.

DYSEXODOS, δυσεξοδος, (from δύς, importing Difficulty, or Malignity, and ἐξοδος, an Egress, Passage, or going out) what is difficult to be forc'd out or remov'd. The Word, in this Sense, occurs in Lib. 4. Epid. Agr. 30. where it is spoken of lax Tumors affecting the Thighs in a Leucophlegmatia.

DYSIATOS, δυσιατος, from δύς, importing Difficulty, and ἰδομαι, to heal, or cure. Difficult of Cure.

DYSODES, δυσώδης, from δύς, importing bad, and ὄζω, to smell, of an ill Smell, fetid. By δυσώδης κοιλίη, we are to understand, in Hippocrates, as Foessius says, a fetid Disorder of the small Intestine; or, as he expresses it, 1 Prorrh. 158. εἰλεδν δυσώδη. Dysodes is the Name of a Malagma for the Pleurisy, and of an Acopon; the Compositions of which are describ'd by Galen, de C. M. P. G. Lib. 7. Cap. 12, 13. and by Paulus, Lib. 7. Cap. 18, 19.

DYSONEIROΣ, δυσόνειρος, from δύς, importing bad, and ὄνειρον, a Dream. Producing troublesome Dreams. Dioscorides, L. 5. C. 7. informs us, that new Wine has this Effect.

DYSOREXIA, δυσορεξία, from δύς, importing bad, and ὄρεξις, Appetite. A bad or diminish'd Appetite.

DYSORGIA, δυσοργία, from δύς, importing Malignity, and ὄργη, Anger, Wrath, in Hippocrates, περὶ ἀρχ. ἰηθ. and περὶ χυμῶν, is implacable Anger or Resentment.

DYSPEPSIA, δυσπεψία, from δύς, importing difficult, or bad, and πέψω, to concoct. Difficulty of Digestion; or rather a deprav'd Digestion, when the Aliments in the Stomach, for want of a due Strength of the digestive Organs, follow their spontaneous Tendency, and contract an alkaline or acid Putrefaction. Galen, de Sympt. Different. C. 4.

DYSPHONIA, δυσφωνία, from δύς, importing difficult, and φωνή, the Voice. A Difficulty of Speech.

DYSPHOROS, δύσφορος, from δύς, importing difficultly, and φέρω, to bear, difficult to be borne, almost intolerable, is a Word applied by Hippocrates to various Subjects, with little Difference in the Signification, which imports the same as here given. Agreeable to this, Hesychius expounds δύσφορος by χαλεπός, vexatious, troublesome.

DYSPNOEA, δύσπνοια, from δύς, importing Difficulty, and πνέω, to breathe.

Dyspnœa, δύσπνοια, is defin'd by Galen, Lib. 1. περὶ δύσπ. βλάδι τις τῆς ἀναπνοῆς, "some Injury, or injurious Affection of Respiration;" as the Name itself, he says, imports. Hippocrates, in many Places, uses the Word δύσπνοια, (Dyspnoea) in the same Sense; as, for Instance, in Coac. where he says, τὸ σεμνῶδες καὶ τὸ δύσπνοον ἐν τοῖσι πόνοις σημεῖα φθινώδεια, "Shiverings, with a Difficulty of Breathing, under Pains, are Prognostics of a Consumption." Thus μακρόπνοον, and βραχύπνοον, are expounded in Galen, Lib. 3. περὶ δύσπν. by μακρόπνοια, and βραχύπνοια, "long Breathing, and short Breathing." Δυσπνοικοί, (Dyspnœici) in the Author of the Definitiones Medicæ, are such as draw their Breath, as it were, through a strait Passage; and Galen, de C. M. S. L. Lib. 7. ad Finem, says of them, they have the Bronchia of their Lungs stuffed with gross and viscous Humours.

Asthma, ἄσθμα, in Hippocrates, is a quick and difficult Respiration, increased to a great Degree, as it happens to Persons after swift Running, or violent Exercise, and that without a Fever. To this Purpose Galen, Com. ad Aph. 26. Lib. 3. says, that an Asthma, which is the Name by which the Greeks call a quick Respiration, or such as is incident to those who run, or use any other violent Motion, happens in these Cases, because an Animal in Exercise wants much Respiration; but, when not caused by Exercise, it proceeds from a Straitness of the Cavities of the Lungs, which are stuffed with Defluxions from the superior Parts. The same Author, Com. ad Aph. 46. Lib. 6. says, that there are many Sorts of Dyspnœa; among which Hippocrates uses to call by the Name of Asthma that only, in which there is a quick and dense Respiration; for though we now use ἀσθμαίνω to express such a Respiration which is consequent upon Running, and vehement Exercise, yet those who lived next after Hippocrates, call'd a certain chronic Disease, some of them simply, Asthma, others Orthopnœa; in which the Patients labour under a continual Difficulty of Respiration, or Dyspnœa, without a Fever. Again, Com. 4. in Lib. 6. Epid. he writes, that when this Kind of Dyspnœa is increased to a vehement Degree, it is called an Asthma and Orthopnœa, being without a Fever, and caused by thick and viscous Humours, obstructing the Passage of the Breath, or some crude Tubercle in the Lungs: And, a little after, he says, that the Humour contained in the Tubercle being communicated to the Aspera Arteria, the Shortness of Breath happened to be increased, and was then no longer call'd πυκνὴ πνοία, (Pycnopsœa) short or quick Breathing, but took the Name of Asthma. Paulus also, Lib. 3. Cap. 29. gives the following Description of Asthmatics: They, says he, who, without a Fever, fetch their Breath short, as when after swift Running, are, from that Symptom, call'd Asthmatics; and the same Persons, because, out of Fear of Strangulation, they keep the whole Body of the Thorax in a strait or erect Posture, are call'd Orthopnoici [from ὀρθός, strait or direct, and πνέω, to breathe]. This Affection proceeds from a stuffing of the Bronchia of the Lungs with gross and viscous Humours; but a Dyspnœa is a common Symptom to this and many other Diseases. This Description Paulus has borrow'd from Galen, de C. M. S. L. who adds, that the Patients are obliged to raise the upper Parts of their Bed, on which they rest their Thorax, for fear of Strangulation in their Sleep; for their Inspiration, he says, is not sufficient

to serve their Respiration, though their Thorax be dilated to the utmost ; whence there appears to be some preternatural Constriction or Straitness within that Part, of which the Patients themselves are plainly sensible. Thus *Galen*.

Orthopnea, ὀρθόπνοια, from ὀρθός, strait, or erect, and πνέω, to breathe, is breathing with the Neck in a strait and erect Posture ; for the Patient, under this Disorder, is affected with so great a Difficulty of Respiration, that he dares not lie down for fear of Suffocation, but is obliged to fetch his Breath with his Neck and Thorax in an erect Posture. The Cause is a Straitness of the Lungs, and its Vessels, occasion'd by an Inflammation, or some Humour contained in the Cavities of the Lungs. *Galen, Com. 2. in Prorrhet.* says, "He, (*Hippocrates*) and all others, call, by the Name of *Orthopnea*, that Species of a *Dyspnea*, in which the Patients are suffocated when lying down, and are hardly able to support themselves with the Thorax erect, without something at their Backs. For the *Aspera Arteria*, which has its Beginning at the Larynx, and is distributed in the Lungs, is, together with the Neck, dilated, by extending the Thorax in an erect Posture ; and all its Branches, which disperse themselves over the Lungs, are at the same time dilated, and the internal Capacity of the Lungs enlarg'd. Hence it is, that from a Peripneumony, and those which are call'd asthmatic Affections, arises an *Orthopnea*, as it does, for the same Reason, in a very severe Quinsy, where the internal Muscles of the Larynx, being inflam'd, obstruct the Passage of Respiration ; for this Disorder also is exasperated by a decumbent Posture, from an Increase of the Straitness of the Parts." Again, *Com. 4. in Lib. de R. V. I. A.* explaining the dry *Orthopnea* of *Hippocrates*, he says, "What he (*Hippocrates*) calls a dry *Orthopnea*, is a *Dyspnea*, which, without Cough or Spitting, is so violent upon the Patient, as not to suffer him to lie down without being suffocated." In *Lib. 7. Epid.* the Sister of *Harpalides*, four or five Months gone with Child, is describ'd as labouring under a dry Cough, *Orthopnea*, Asthma, and sometimes a Suffocation, so that she was always obliged to sit up in her Bed, and to sleep in that Posture. She continued thus near two Months, and was then relieved by a Cough, in which she expectorated great Quantities of mature, pituitous, and white Matter, and was at last delivered of a Female Child.

Dyspnea, in general, implies a Difficulty of Breathing, which, in a greater Degree, is call'd Asthma ; but, in an extreme Degree, it is call'd *Orthopnea*.

A Difficulty of Breathing may be caused by every Distemper which can affect any Part of the Thorax, particularly the Heart, large Arteries, and Lungs ; as an Erysipelas, or Inflammation of the Lungs, crude Tubercles, Vomicas, Polypuses, and many other Disorders, which are taken notice of under their respective Articles. But our present Subject is, that Species of *Dyspnea*, which is usually call'd an *Asthma*, and, by the Vulgar, a *Phibisic*.

C A S E I.

The Son of Mr. *Haltzwelt* became Asthmatic, in consequence of a Fall, which produced a Concussion of his Brain ; and at last, an uncommon Load of Humours falling on his Lungs, he died.

Upon opening his Body, all the Parts of his Lungs were found stuff'd with phlegmatic and viscid Humours. *Fabr. Hild. Cent. 1. Observat. 2.*

C A S E II.

Mrs. *Rouquette*, a Woman of sixty Years of Age, very fat, corpulent, and accusom'd to a sedentary Life, about fifteen Years ago, began to labour under a Difficulty of Breathing, which gradually increased to such a Degree, that, when she went up any Stairs, she was obliged to stand still, and recover her Breath, on every third or fourth Step. But, about the Beginning of January 1642. happening to take a Journey when the Winds were southerly, and the Weather rainy, she was suddenly seiz'd with a Defluxion of Humours, partly on her Lungs, and partly on her Jaws. By this means her Difficulty of Breathing was increased, and a Tumor appearing on her Right Cheek, her Jaws could not open farther than to allow her to sip a little Broth. She had also, for several Years, been troubled, now-and-then, with an Erysipelas of her Left Leg, which frequently used to exulcerate, and with which Symptom it had more remarkably appear'd, before she was seiz'd with this Defluxion of Humours. Being call'd to her on the eighth Day of her Disorder, I found her Pulse unequal, intermitting at every third or fourth Stroke, and her Respiration carried on with the greatest Difficulty. From these Symptoms, I suspected that there must be some terrible Disorder, not only in the Lungs, but also in the Heart itself, or in the Vessels contiguous to it. And, indeed, this Prognostic was still more confirm'd by the Ulcer of the Erysipelas becoming suddenly dry, accord-

ing to Aphorism 25. 6. Besides, the Tumor of her Cheek disappearing a few Days after, her Jaws nevertheless remained closed ; and then, indeed, it appear'd, that their Constriction proceeded from a Convulsion of the Muscles appointed for moving them. On the fifteenth Day of the Disease, pretty early in the Morning, her Right Eye was found shut, the other at the same time remaining open. This Symptom ow'd its Birth to a Palsey of the Eye-brow, and was the unlucky Omen of a more terrible Disorder ; for that same Afternoon she was seiz'd with a slight Apoplexy ; from which she in some measure recover'd, in the Space of two Hours ; but her Left Side became paralytic, and, her Strength gradually decreasing, she died three Days after. Through the whole Stages of the Disease, neither a Cough nor Stertor accompanied her Difficulty of Breathing, except on the Day before she died.

Upon opening her Body, I found her Spleen so putrid, that, by a gentle Compression, it would fall to Pieces. The Substance of her Lungs was of a livid Colour, moisten'd with a watery Humour ; and one of their Lobes, lying on the Left Side, was fill'd with putrid and purulent Phlegm. The Right Ventricle of her Heart appear'd, without its internal Membrane, so putrid also, and exulcerated, that its fleshy Fibres, upon being touch'd with the Points of one's Fingers, fell to Pieces. Its Right Auricle appear'd preternaturally large, and was filled with a certain fleshy Substance, which, being partly red, and partly blackish, resembled concreted Blood, but could not be divided with one's Hands. I am of Opinion, that these two Disorders of the Right Ventricle and Auricle were the Cause of the Inequality and Intermision of her Pulse, whilst the Heart, endeavouring to throw off the uneasy Load, was agitated with various Commotions. To this the Interruption or Interception of the natural Pulse was owing. It is, on the other hand, sufficiently plain, that her Difficulty of Breathing proceeded from the Infection of her Lungs. *Riverius, Cent. 2. Obs. 77.*

C A S E III.

The illustrious Cardinal *Guertanus*, after the Closing up of an Issue in his Right Leg, was for four Months troubled with a Respiration preternaturally quick, frequent, and resembling that of those who are overheated by some violent Exercise ; but his Inspiration was attended with a greater Difficulty than his Expiration. His Thirst was great, his Face high-colour'd, and his Nights passed without Sleep. What he spit up was in small Quantity, and somewhat saltish. A slow Fever at the same time accompanied all these Symptoms ; and, in three Months time, his Disorder put an End to his Life.

Upon opening his Body, his Lungs were found full of Vesicles ; which, when open'd, yielded a Water of a yellowish Colour. *Lælius a Fonte, Consultat.*

C A S E IV.

A Tubercle of the Lungs may be of two Kinds, one crude, and incapable of Suppuration, such as the *Steatoma* or *Atheroma* : Tumors of this Kind, *Columbus [Lib. 15.]* says, he has often met with in dissecting the Bodies of those, who, during their Lives, had been afflicted with a Difficulty of Breathing. The other Kind tends to Suppuration, such as that under which the Daughter of *Agess* labour'd, mention'd by *Hippocrates*, 4. 6. *Epid. 4.* which was, nevertheless, not accompanied with a Fever. Hence I infer, that Pus may be contained in the Lungs without any concomitant Fever. *H. Saxonia, Prælect. Pract. Part 1. (26. §. 4.)* I dissected two, who were both afflicted with a Difficulty of Breathing on account of Tubercles, which were at first crude, but which afterwards came to Suppuration ; the one, two, and the other three Months after the Beginning of the respective Disorders. Both Patients spit up Blood, mix'd with a little Pus, and some small Pieces of the Lungs. One of the Patients, before his Death, was afflicted with a pretty large Tumor of his Liver. Upon dissecting both their Bodies, the Right Lobes of their Lungs were internally quite corrupted, and externally adherent to the Pleura. *Columbus apud Schenckium.*

A crude, viscid, and consistent Humour, congested and pent up into a crude Tubercle, and contain'd in a Cystis, may be form'd in the Substance of the Lungs ; an Instance of which I met with in dissecting the Body of a young Gentleman of Distinction. *Car. Piso de Morbis a Ser. Sect. 3. Cap. 4.*

C A S E V.

Mr. *Schottendorf* had for several Years been almost close confin'd to his Bed, and, at stated Hours, had his Respiration almost entirely obstructed. This Disorder, scorning to yield to any Remedies whatever, at last put an End to his Life.

Upon opening his Body, I found his Peritonæum sufficiently putrid, his Stomach almost empty, without any Chyle, or other humoral Matter, and, consequently, little, and, as it were, shrivel'd up. His Intestines also were void of Pieces, and his Liver corrupted, especially in that Part where it was cover'd by

by the Ribs. The Left Side of his Spleen was disjoined from its Ligaments, as it were doubled, and every-where half-rotten. Upon laying open his Diaphragm, I found a very hard Mass, filled with a large Quantity of small Stones, adhering to the Substance of the Lungs. This Mass I extracted with my Hands. The Lobes of the Lungs adhered so firmly to their main Body, that they were become incapable of communicating any Motion to it. By his voracious and often repeated Eating of fat Fleshes, so much indurated Fat adhered to his Arteria Trachea and Pharynx, that he was not only often afflicted with an uncommon Difficulty of Breathing, but also became incapable of taking any Food for some Days before his Death; so that, being supported by Drink alone, I am inclined to think, Hunger would have soon put an End to his Days, tho' the Violence of his Disease had spared him. Besides, he assigned this as an external Cause for his Disorder, that, being on his Return from *Italy*, when he first fell sick, he had called an unskilful Surgeon, who, upon the very first Sight of him, boldly affirmed, that he laboured under a *Lues Venerea*, of which, by the way, he had never in his Life had the least Taint. This Surgeon prepared an Ointment of Quicksilver, which he had not been at Pains to extinguish sufficiently; and, using this by way of Unction, he, by the penetrating and resolving Efficacy of the Quicksilver, became daily worse and worse, till Death put an End to his Misery. I believe the Cause of this Disorder to be nothing else than the Quicksilver penetrating into the very Substance of the Lungs, in consequence of their loose and porous Texture. *Schenkius ex M. Job. Fabr. Observat.*

There are great Reasons to believe, that this could not be effected by the mercurial Ointment. See MERCURIUS.

C A S E VI.

M. *Laelius Lombard* of *Geneva*, a slow dull Man, of fifty Years of Age, died suddenly in the Year 1646. He was subject to an Asthma, a Disease hereditary to his Family. Upon going into a Wine-cellar during the Season of the Vintage, when the Must was fermenting, he was seized with so violent a Paroxysm, that he was scarce sooner laid in Bed, than he breathed out his last. Upon opening his Thorax, his Lungs appeared without any Stain, or vitiated Colour; only in Bulk they equalled those of an Ox.

We have Reason to believe, that the Nourishment of the Lungs is increased, as often as they, retaining their natural Consistence and Substance, yet grow to an enormous Bulk, and so fill the Cavity of the Breast, as rather to hinder Respiration altogether, than render it difficult; Instances of which I have more than once met with in dissecting dead Bodies. *Fr. Sylvius Praxeos, Lib. 1. Cap. 24. p. 12.*

C A S E VII.

On the 11th of *May* 1676. I opened the Body of a young Man of twenty-two Years of Age, who, about eight Years before, contracted a Pleurisy, in consequence of his catching Cold after being overheated by running. Neglecting his Pleurisy, and not calling in Venesection to his Assistance, a terrible Asthma, accompanied with purulent and often bloody Expectoration, ensued. He had a violent Pain, resembling Gravel, in the Region of his Loins, and was always melancholy and dejected.

His Gall bladder was very small, remarkably thick, and filled with a very black viscid Matter, which felt hard upon being touched. Its interior Crust was also thick, very black, and, as if it had been a special Coat, easily separable from the rest. His Liver was very large, and, beyond the Spleen, adhered pretty strongly to the Diaphragm, by means of a transverse Ligament reaching so far. It was very much covered with Tubercles, and every-where sufficiently scirrhous. Both Kidneys were entire; and the back Part of the Spleen was adherent to the Diaphragm. The Belly was distended with a clammy viscid Water, of a darkish Colour. In the Thorax, the Lungs adhered inseparably to the Ribs on both Sides, especially near the Vertebrae themselves. They were also almost corrupted as far as the lower Part of the Diaphragm. The Pericardium was filled and distended with above thirty Ounces of a very limpid Water, which was of a sweet Taste. The Pericardium being removed, the Heart, and its Right Auricle, appeared of an uncommon Size. Having tied all the other Vessels, we drew more than twenty Ounces of fluid Blood, tough Phlegm, and black Gore, from the Auricle. *G. Blasius Observ. Med. 19.*

C A S E VIII.

In the Year 1646. at *Vallogne*, the Body of a Man of Fifty Years of Age, who had been wore away, and at last killed, by a severe Asthma, was opened; upon which the Lungs were found without Blood, their Parenchyma, and all their minute Passages, obstructed, filled, and, as it were, drenched in a thick viscid Phlegm, while, at the same time, there appeared many small Impostumes in the Parenchyma itself. On both

Sides also the Lungs adhered so firmly to the Pleura, that a considerable Strength of the Hands was necessary to separate them. Their Colour was pale and blackish; so that they were quite destitute of Strength to throw the Matter off; and there was no Place for the Ventilation of the Heart, because the perceptible and pervious Passages of the Aspera Arteria and Arteria Venosa were plainly blocked up by the Abundance of the Matter; which Cause at last, by retaining the Sordes, overpowered and extinguished the vital Heat of the Heart.

Bad Diet, and the Viscera absolutely necessary for performing the Functions of Nature, being weakened by that means, were the Causes of so lamentable a Disorder; for the Stomach itself was become little, languid, and of a very slender Substance; the Omentum was plainly extenuated, and destitute of Fat; the Liver was pale and small; which Circumstances sufficiently shewed, that neither the first nor second Concoctions were duly carried on. *Otho Heurnius, Histor. 9.*

C A S E IX.

In the Year 1592. I opened a Woman big with Child, who had died apoplectic. In her Thorax I found her Lungs joined in some Places by strong nervous Filaments to the Ribs of the Right Side; and in both Sides they had assumed a preternatural Colour. *Petrus Pauvius, Observ. Anat. 6.*

C A S E X.

An illustrious Prince, about sixty Years of Age, was, twice or thrice in a Year, afflicted with a Defluxion of thin Humours on his Breast, which brought on an Orthopnoea, and a Danger of Suffocation. Upon dissecting his Body, in his Thorax I found all the Lobes of his Lungs blackish, both internally and externally; they were also turgid with black Blood; their Substance was equable, but their Right Lobe adhered to the Pleura; and both Sinuses of the Heart contained a certain Substance. *Benet. Lib. 2. Vol. 1. p. 514.*

C A S E XI.

By the Dissection of Bodies we come to know, that, by the immoderate Use of Repellents, the Thorax is filled with a bloody Serum. An Instance of this occurred in the Year 1553. in a certain Merchant, who, before his Death, laboured under a terrible Difficulty of Breathing. He spit up little or nothing, and at last died. However, upon dissecting his Body, four Pitcherfuls of Serum were found in his Thorax.

I imagine, this had been occasioned by a Lamina or Plate of Lead, which he always wore on his Breast, on which there was a cancerous Tumor, and by the strong refrigerating and repellent Medicines he used even after it came to a Suppuration. It is certain, that the Blood had oused back into the Breast, since the Tumor itself was very large, and became much less after the Use of these Medicines; and tho', before that, he had no Difficulty of Breathing, yet, from that very time, till the Day of his Death, he was afflicted with that Symptom. The Serum was bloody, that is, a little Blood appeared dissolved in it; nor was it such Serum as is found in the Peritonæum and Pericardium. *Rondeletius Meth. Cur. Morb. Lib. 2. Cap. 23.*

C A S E XII.

A Shoemaker, of about thirty Years of Age, who died of a Dropsy, brought on by an Asthma, was, in the Year 1586, opened. Before his Belly began to swell, in the Region of the Back, on the Right Side, he had a fleshy Tumor, not receding from the natural Colour of the Skin; which when a Barber laid open with a Knife, nothing flowed from it for some Days, except Water; and the Wound was afterwards cured. But, when he was racked with a violent Cough, when his Belly and Feet began to swell, and a Difficulty of Breathing appeared, he took the Advice of some Physicians, and at last consulted myself. After he had used such things as were rather palliative, than effectual in promoting a real Cure, he began to recover at certain Intervals; but, immediately relapsing, he died.

Upon opening his Abdomen, four Brass Barbers Basons were filled with a Citron-coloured Water, which flowed from it. All the Viscera contained in the Abdomen were in a good Condition, except the Omentum. The Diaphragm was not pressed upwards by the Liver, but was remarkably depressed by the Matter lodged in the Thorax. Upon opening the Thorax, three Brass Basontuls of purulent Matter flowed from the Right Side, on which the Lungs were converted into Pus, the Left remaining sound, and in a good State. Hence, that is, from the Ulcer of the Lungs, arose the Asthma, hence the Cough, and hence the Dropsy. *Caspar Bauhinus de Observat. propriis.*

C A S E XIII.

A certain Man, who laboured under an Asthma and Consumption, happening to die, his Lungs were suspected to be the principal Seat of his Disorder; but, upon opening his Body, nothing uncommon was found about them; only the Heart, which

which is indeed a surprising Circumstance, was as large as a grown Person's Head, and had increased to such an immense Bulk; that there was a *Conflux* and *Concourse* of all the Blood and Spirits to it. *Ballonius Epid. & Ephem. L. 2. p. 144.*

C A S E XIV.

Dr. *Walter Needham* informed me, that he knew a Butcher, who, having long laboured under a periodic *Asthma*, which generally returned every Fortnight or three Weeks, at last died under an immediate Paroxysm of it.

Upon opening the Body, all the Viscera, and more especially the Lungs, were found sound; neither were there the least Traces to be observed of an excrementitious Matter collected in the Bronchia, or of any Quantity of Blood having stagnated in the Veins. The only preternatural Phenomenon to be observ'd was, that the Gall-bladder contained several small Stones; so that, if there was any other Disorder, added he, it was either to be ascribed to the nervous System, or to some other occult and unknown Cause, which could not be discovered by the Eyes. *Thom. Willis Pathol. Cap. 12.*

C A S E XV.

Zecchi, *Conf. 18.* informs us, that Cardinal *Palliot* laboured at once under an *Asthma*, and a Heat and Difficulty of Urine; and that his Case had this Peculiarity in it, that when he was afflicted with the Heat and Difficulty of Urine, the Difficulty of breathing was perceptibly lessened; and when the Strangury ceas'd, his *Asthma* returned with redoubled Force. Concerning these Symptoms, I am of the following Opinion: The *Asthma* proceeded from the thin Humours lodg'd in the whole Mass of Blood; and these are oftener carried to the pulmonary Veins, from the Head, which, according to *Hippocrates*, contains more Blood, or more Veins, than the Lungs; for this Reason, no Cough precedes, but sometimes a heavy Pain of the Head does. This Humour does not flow from the Head, through the *Aspera Arteria*. This accounts for the Patient's not being troubled with a Cough. The Paroxysm of the *Asthma* was sometimes put an End to, when the Strangury began; for this Reason, that the thick Humour is carried to the Kidney, whereas the thin is left in the Lungs. This is, likewise, the Reason why the *Asthma* ceases, the Swelling of the Feet increasing, as I have often seen, and the Discharge by Urine, as *D. Joh. Rhodius* affirms. *Schneiderus, Lib. 3. de Catarrh. C. 6.* See *Sennert. Lib. 62. Pract. 45.*

C A S E XVI.

A certain Man, after having taken some Doses of Mercurial Pills, in order to carry off some Venereal Buboës, was seized with a Difficulty of breathing, and a Fever, which cut him off in two Days time.

When his Body was opened, by Mr. *Gaute*, the King's Surgeon, there was found, in the Base of his Heart, a certain Excrecence, as large as a Pigeon's Egg, and surrounded with many smaller ones, whose Surfaces were smooth and even, (for they were all formed by the Production of the proper Membrane of the Heart) had no fleshy Fibres within, but only a soft Matter, in Colour and Consistence not unlike the thick Dregs of Wine. This Matter was full of white, lucid, and metallic Corpuscles, which, in every body's Opinion, were the Particles of the Mercury: The Probability of which is shewn by Mr. *Lemery*, and several other learned Men, in their medicinal and chemical Works. *D. Gaute in Zodiacus Med. Gallico, p. 156.*

C A S E XVII.

In the Year 1649, I dissected, in our Hospital, a Stone-cutter's Servant, who died of an *Asthma*. In his Lungs I found a great Quantity of Stone-dust, which he had drawn in, with the Air, in Inspiration, and which had so stuffed up almost all their Vessels, that in cutting the Lungs, which were very hard, my Knife seemed to pass through a Heap of Sand. Now, since the Vessels of the Lungs were filled with this Dust, they could not possibly admit the inspir'd Air, so that the Patient died asthmatic.

In the following Year, in the same Hospital, I saw, and exhibited, two Cases of the like Nature; that is, two Stone-cutters, cut off in the same manner, and their Lungs affording the same Appearances.

I also saw a Man, who died after having labour'd long under an *Asthma*; and, as in his Life-time he had been accustomed to cleanse and prepare such Feathers as Beds are usually stuff'd with, the Vessels of his Lungs were full of the Down of these Feathers. *Bonct. Sepulchret. Anat.*

It is an old, but true Maxim, not only of Physicians, but also of the vulgar and illiterate Part of Mankind, that Life and Respiration are so inseparably connected, as to go hand-in-hand. That Life, and all the several Functions subservient to its Preservation, are supported by that universal Circulation of the Blood from the Heart to all the Parts, and thence to the

Heart again, is a Circumstance absolutely certain. But, at the same time, it is found equally true, that this Circulation, and consequently Life, cannot subsist without that partial and less general Circulation of the Humours, which is performed thro' the Lungs, from the Right to the Left Ventricle of the Heart; since, when this latter ceases, Life, and all the Functions of the animal Economy, are forthwith at an End. Since, therefore, this Circulation of the Blood through the Lungs cannot be performed without a free Respiration, we may easily judge how much an easy and natural Breathing contributes to the Preservation of Life, and how detrimental to it, a disorderly, suppressed, or totally obstructed Respiration must necessarily be. This Truth is sufficiently evinced by those Diseases, which are accompanied with a Difficulty of breathing.

There are several very formidable Disorders, which, among other direful Symptoms, are accompanied with a difficult and laborious Respiration. The Diseases of this kind are principally such as have their Seat fixed in the Lungs; a Pleurisy, for Instance, a Peripneumony, a Cough, a Phthisis, Scirruses, Tubercles, and Impostumations of the Lungs. But, besides these, there are many Causes, both within and without the Thorax, which, proving offensive to Respiration, and the vital Circulation of the Humours, threaten the highest Danger, and produce that Disorder which the *Greeks* called *Asthma*; and which, in my Opinion, may be defined, a difficult and laborious Respiration, arising from various Causes, and accompanied with an intolerable Uneasiness and Straitness of the *Praecordia*, which, as it disturbs the free Circulation of the Blood through the Lungs, must, of course, endanger a Suffocation.

As this Disorder, in general, may arise from various Causes, so there are various Kinds of *Asthmas*: Thus, for Instance, there is a gentle Dyspnoea, or Difficulty of breathing, which is familiar to such Persons as are fat, corpulent, or full of Juices, especially after any violent Motion or Exercise of the Body. This Species of the Disorder depends upon a difficult Circulation of the Blood through the Lungs, and a preternatural Expansion of the Vessels, by which a sufficient Ingress of the Air is prevented: But this Degree of the Disease is free from Danger, and of a transitory Nature. There is also a pituitous *Asthma*, which, being accompanied with a moist Cough, and an Expectoration of viscid Phlegm, racks the Patient both Day and Night, in whatever Posture the Body happens to be: This Species of the Disorder draws its Origin from a copious Congestion of viscid Mucus in the Lungs; which blocks up the pulmonary Vessels, and prevents the free Ingress and Regress of the Air. But our principal Intention, at present, is to consider that Species of *Asthma*, which arises from a spasmodic Stricture of the Parts subservient to Respiration, produced by various Causes both within and without the Thorax: This is what is commonly called a spasmodico-statulent, and a convulsive *Asthma*.

This convulsive *Asthma* is widely different from the convulsive Suffocation of hysterical Patients, which only consists in a spasmodic Constriction of the upper Parts of the Fauces, as also of the Pharynx and Larynx, by contracting and lessening the Cavity of which latter, it prevents the free Passage of the Air to the Lungs; whereas, in a convulsive *Asthma*, the Passage through the *Aspera Arteria* is sufficiently free and pervious, and the Fault rather resides in the Lungs themselves; so that, sometimes, only Inspiration is difficult, while Expiration is duly and easily performed. We must, also, distinguish between a convulsive *Asthma*, and a suffocative Catarrh; since this latter, which is accompanied with a Redness of the Countenance, and a Stertor, partakes, in some measure, of the Nature of a Palsy, and in a few Days comes to a Solution; whereas the former is entirely free from a Stertor, and belongs to the Class of Chronical Diseases.

The Signs of an approaching *Asthma* are, by *Aretaeus, L. 1. Chronic. Morb. Cap. 11.* beautifully described in the following Words: "The Patient is seized with an Oppression of the Breast, a Littlelessness in his usual Employment, or any other Undertaking; in Running, or ascending a rising Ground, his Breathing is difficult and laborious, he becomes hoarse and coughs, is afflicted with Flatulencies of the *Praecordia*, and rack'd with uneasy Eructations; he is subject to Watchings, and in the Night-time very little, and almost imperceptibly, hot; his Nostrils, also, become too much contracted for a free and easy Respiration. If the Disorder is degenerating, and becoming more formidable, the Cheeks become red, and the Eyes prominent, like those of strangulated Persons; he snores whilst awake, but much more when asleep; his Voice is indistinct, languid, and faint; he is fond of a free and cold Air, and loves to walk in the open Fields, because a House is a Scene too narrow and confin'd for his breathing with the Freedom he wishes. He breathes in an erect Posture, and is eager to attract all the Air he possibly can: For this Purpose, he opens his Mouth wide; and seems discontented, because it is too small for his Purpose. His Face, except the Cheeks, which are red, becomes pale; a Sweat

“ breaks out about his Forehead and Neck, he is rack’d with
 “ a sharp and continual Cough, and expectorates a small
 “ Quantity of thin, cold, and, as it were, frothy Matter.
 “ In Inspiration his Neck becomes tumid, and there is a
 “ Retraction of the Præcordia. His Pulse is small, frequent,
 “ and depressed; his Legs, also, become small and slender. If
 “ these Symptoms should happen to be increas’d, they some-
 “ times suffocate the Patient, in the same manner an Epi-
 “ lepsy does; but if they are alleviated and lessen’d, the
 “ Cough becomes less frequent, and returns at longer Intervals;
 “ a large Quantity of sanious and moist Spit is expectorated:
 “ copious and aqueous Stools are discharg’d; the Urine, also,
 “ is evacuated in large Quantities, though nothing, as yet, sub-
 “ sides in it. His Voice becomes more clear and sonorous;
 “ his Sleeps longer, and sufficient for the Support of Nature.
 “ His Præcordia are relax’d, and render’d easy; and his Pain,
 “ upon its Remission, is sometimes translated to the Scapulæ;
 “ he breathes at longer Intervals, and more easily, though with
 “ a certain Roughness.”

The more old and inveterate the Disorder is, the more violent and terrible all these Symptoms are. Under this Distemper the Patient is generally costive, and the Urine discharged is thin and aqueous. Very frequently Tumors appear on the Feet, the Hands, the Face, and the Back; the Arms are seized with a preternatural Torpor, the Countenance becomes unseemly, and mark’d with Spots of a leaden Colour. To these Symptoms is also joined a slight anomalous Fever, which is exasperated towards the Evening. This Train of Symptoms is succeeded by a cathetic Defecation of the Body, accompanied with oedematous Swellings of the Feet, a Dropsy of the Breast, or even an Ascites, or Anasarca. At last, one of the Sides, or, at least, one of the Arms, becomes paralytic; or, which is remarkable, instead of this Symptom, an Amaurosis, which is a Palsy of the Eyes, happens, as was observ’d by *Goblius*, in his Dissertation *De Asthma convulsivo a Polypo Cordis*. Because this Species of Asthma for the most part terminates in a Suffocation, it is for that Reason called a Suffocative Asthma.

Experience and accurate Observation sufficiently inform us, that Persons of a sanguine Habit, and small, but numerous Vessels, as also those who are corpulent, plethoric, or what we call *narrow-chested*, are most generally subject to Asthmas, after any violent Commotion either of Body or Mind, especially in the Spring and Autumn. Persons of this kind are still more exposed to the Shocks of this Misfortune, if they either labour under an immoderate Flux, or a total Suppression of the Menstrues, or hæmorrhoidal Discharges; or neglect their accustomed Evacuations of Blood, whether by Scarification, or Venesection. They are also subject to the same Disorder, if they are hypochondriacal, or if the Stomach and Intestines, in consequence of a disturbed and irregular peristaltic Motion, abound with Flatulencies, or are rack’d with Spasms: And they are still more infallibly expos’d to this direful Train of Calamities, if the Excretions of the peccant and acrid Serum, by whatever Emunctories, are either totally suppressed, or carried on in a faint and languid manner.

Upon the anatomical Dissection of Subjects who have fallen a Sacrifice to this Disease, we generally find Fluëuations of Water in the Thorax, accompanied with polypose Concretions of the Heart. Instances of this nature are given by *Carolus Piso*, de *Morbis ex Colluvie serosa*; by *Scultetus*, in *Append. Obs.* 31. and in the *Act. Medic. Berolin.* Dec. 2. Vol. 7. In some Subjects there is only found an Extravasation of Serum in the Thorax, without any polypose Concretions in the Heart; an Instance of which Kind we find recorded in the *Act. Medic. Berolin.* Dec. 2. Vol. 8. in which Case the Aorta was also found ossified. In other Subjects the Lungs are found stuff’d with a black stagnating and extravasated Blood; an Instance of which occurs in *Willis’s Pharm. Rational.* Sect. 7. Cap. 3. Sometimes the Lungs and Bronchia remaining sound and entire, there are only polypose Concretions found in the Heart; Instances of which are to be met with in *Pezoldus, Observat.* 58. and in the *Ephemeridis Naturæ curios.* Dec. 3. An. 2. *Observat.* 185. and in Dec. 1. An. 4. *Observat.* 11.

But, that we may be able more distinctly to comprehend the Manner in which an Asthma is produced or generated, it is necessary to premise some things with respect to Respiration. In order, therefore, to a free and natural Respiration, it is absolutely requisite, that the Lungs, which consist of numberless Blood-vessels, both of the arterial and venous kind, as also of membranaceous Duets and Vesicles, should be sufficiently expanded and dilated by the Air, that subtle, elastic, and ethereal Fluid, when the Cavity of the Thorax is enlarg’d by the Elevation of the Ribs. By means of this Expansion, the Blood is more freely and quickly convey’d through the venous and arterial Ramifications of the Lungs, which were before much complicated and compress’d, to the Left Ventricle of the Heart, because the Pressure, made upon the Blood-vessels by the Vessels distended with Air, facilitates the Motion of the Fluids through them. But since the Air, within the Lungs,

which is impregnated with humid Vapours, and deprived of its Elasticity, cannot make an Exit for itself; and since, in its room, fresh expansive Air ought to succeed; it is absolutely necessary, that the Thorax should, in some measure, be contracted, and have its Cavity rendered less. This alternate Dilatation and Contraction of the Thorax, the Expansion and Collapsing of the Lungs, the sufficient Ingress and Egress of the Air, together with a due and equable Motion of the Heart, produce a free and natural Respiration; which is highly necessary to the Preservation of Health and Life. But when any Causes occur, which either obstruct the Ingress and Egress of the Air from the Lungs, disturb the dilatatory and contractile Motion of the Muscles of the Thorax, Abdomen, or Diaphragm, or disorder the due Systole and Diastole of the Heart; forthwith an Asthma, the Generation of which we have been accounting for, is produc’d.

Taking the above-enumerated Circumstances for so many Data, it will be no difficult Task to render the Ætiology of an Asthma sufficiently obvious and easy: And, because there may be various Causes of this Disorder, we shall first consider that which arises from some Fault or Imperfection of the Blood: We observe, then, that severe and violent Asthmas are produc’d by a Redundance of Blood and Humours, by their preternatural Thickness, or their Congestion in the Præcordia; for, when the Mass of Blood and Humours is too copiously and impetuously convey’d to the Right Ventricle of the Heart, it must, of course, be also more copiously carried to the Ramifications of the pulmonary Vessels; by which means, the elastic Force of the inspir’d Air is, in consequence of the strong Resistance of the Blood, considerably impair’d. The Blood, therefore, which is not briskly enough propel’d thro’ the pulmonary Vein, stagnates in its small Ramifications; and the fresh Supplies of Blood, convey’d by the continual Pulsation of the Heart, distend and dilate the Ramifications of the Vessels: Hence arise a Difficulty of Breathing, great Uneasiness, a Tremor and Palpitation of the Heart, together with an unequal, small, quick, and frequent Pulse. This Asthma arising from a Redundance of Blood, ought, also, to be distinguished by the Epithet Spasmodic, because the stagnant Blood not only preternaturally distends the Vessels, and small Ramifications of the Nerves, but also compresses the membranous Vesicles. Now, ’tis to be establish’d as an infallible Maxim, that a preternatural Expansion of the nervous Coats, by a large Quantity of Blood stagnating in them, lays a Foundation for a spasmodic Constriction; and, *vice versa*, this Constriction contributes very much to the Stagnation and Congestion of the Humours: This seems to be confirmed by those Patients, whose Lungs, after Death, have been found stuff’d with a black, stagnant, and extravasated Blood. *Willis*, in his *Pharm. Rational.* Sect. 7. Cap. 3. furnishes us with an Instance of this, in a Man belonging to the Priesthood, an Order more exposed to this Misfortune than others, in consequence of the Congestion of Humours to their Lungs, occasion’d by their frequent Declamations in Public.

This Species of Asthma is very common in hypochondriac Patients; because in them the vital Humours, which are generally pretty thick, are, in consequence of the Stricture of the inferior Parts, forc’d in too large Quantities to the Præcordia: In Patients of this Class, this Disorder is almost always complicated with Flatulencies of the Stomach, and Distentions of the *Primæ Viæ*, by which the primary Disease is render’d worse; for since the Diaphragm touches immediately upon the Stomach, when the latter is distended with Flatulencies, the former must, of course, be forthwith proportionably affected, and its free Motion prevented: Hence, also, the due Expansion of the Lungs is obstructed. Besides, it frequently happens, that the Diaphragm, which is a nervous Membrane, is spasmodically contracted; by which means, the Oesophagus, which perforates it, is so contracted, that a free Passage cannot be afforded to the Vapours struggling for an Eruption: Hence the Uneasiness of the Præcordia is surprisingly increas’d; and the Flatulencies, being afterwards, in some measure, set at Liberty, discharge themselves in loud and copious Eructations, which proportionably alleviate the Disease.

That Species of Asthma which strictly deserves the Name of Convulsive, and which frequently occurs in Practice, is, without the Concurrence of any perceptible material Cause, produc’d by a spasmodic Constriction of the Parts subservient to Respiration, especially of the Membranes surrounding the pulmonary Vessels; for, when the nervous Coats of the Diaphragm, the membranous Parts of the intercostal Muscles, and the delicate Membranes which every-where inclose the pulmonary Vesicles, are spasmodically constricted, the Cavity of the Thorax is, by that means, lessen’d, the Expansion of the Lungs check’d, the due Ingress of the Air into the pulmonary Vessels prevented, and the Passage of the Blood thro’ the Lungs, together with its Circulation from one Ventricle of the Heart to the other, surprisingly retarded: Now, since the contracted Parts of the Breast receive their Nerves from the vertebral and dorsal Pairs, which also send off Ramifications to the Arms,

'tis sufficiently obvious, why the whole Breast and Arms should be oppress'd and tense, the Scapulæ, Back, and Sternum, afflicted with Pain, and the Arms affected with a Torpor, and, at last, a Palsy; because the Stricture prevents a due Influx of the nervous Fluid.

These spasmodic Constrictions are excited by an acrid, subtle, caustic, and, often, virulent Matter, lodg'd about the nervous Parts of the Præcordia. This peccant Matter is, originally, generated by the Repulsion of Sweats, especially in scorbutic Patients; as also, by the insufficient Evacuation, or preposterous Repression of exanthematous Disorders, of Efflorescences, of all Kinds of Excretions of the acrid Lymph and Serum, or of Defluxions of Matter on the Joints. Thus we are taught, by daily Experience, that an Asthma is produc'd by an Erysipelas, the Small-pox, and, especially, the Measles; the purple Fever, as also scorbutic Spots, and Pustules of every Kind; when the peccant Matter is either not sufficiently forc'd to the Surface of the Body, or injudiciously repel'd, by the preposterous Use of Astringents. This Disorder, also, arises from the Itch, the Tinea, or Achors of the Head, and the Crusta Lactea, when preposterously dried up by oleous and pinguious Substances, or Linen-cloths impregnated with Sulphur. An Asthma may also arise, from a Repression of the fetid Sweat of the Feet, or a sudden and universal Suppression of Transpiration; as also, from chronical Ulcers, or Fontanels unseasonably and injudiciously heal'd: Thus I have seen an Instance of a convulsive Asthma, arising from the drying up of a serpiginous Ulcer in the Scrotum: An Asthma may, in like manner, be produc'd by a Gout, or any arthritic Disorder, retiring to the more noble Parts, partly in consequence of a Defect of Strength, and partly in consequence of preposterous and ill-chosen Measures.

To this Class of Disorders belongs that dry spasmodic Asthma, which, by means of metallic, saturnine, sulphureous, poisonous, and arsenical Exhalations, as, also, by those of fossil Coals and *Aqua-fortis*, is principally incident to those who work in Metals, such as Miners, and some Kinds of Smiths. In the *Acta Medica Berolinens.* Dec. 1. Vol. 6. we have an Instance of a Smith, who, by attracting the metalline Particles, in striking Brads with a Hammer, fell into a convulsive Asthma; for these noxious and virulent Exhalations, when drawn in by Inspiration, fix on the nervous Membranes of the pulmonary Vessels; and, by constricting them, prevent the free and perfect Access of the Air into them, and therefore threaten this terrible Disorder.

The spasmodic Stricture of the Diaphragm alone, without any Fault or Imperfection of the Lungs, is sufficient to disturb the Work of Respiration, and induce a sudden Suffocation. I have still fresh in my Memory, two memorable, but mournful, Instances of this Kind, in which the Patients, tho' before sound in every respect, by being struck on the Pit of the Stomach, and the Region to which the Diaphragm is annexed, suddenly died of a Suffocation: Upon laying open their Bodies, nothing amiss appear'd, except a Stricture of the Diaphragm, and a gentle Sugillation of its tendinous Part. Nor is it less effectually confirm'd by Experience, that Wounds inflicted by Puncture in the Centre of the Diaphragm, have produc'd an instantaneous Suffocation; not to mention the intolerable Difficulty of Breathing, which is perceiv'd in consequence of an Inflammation of the Diaphragm, which is a nervous Substance: Nor is it hard to assign a Reason for this, since the constricted Diaphragm retains a convex Figure, which in Inspiration ought to be plain: Now, on this account, it so contracts the Cavity of the Thorax, that the Lungs cannot be sufficiently expanded.

Nor are we to forget that spasmodic Asthma, which, in cachectic Patients draws its Origin from œdematous Swellings of the Feet, repel'd by any means, and is accompanied with a violent Oppression and Uneasiness of the Breast. This Disorder is to be accounted for, almost in the same manner with that Asthma, which arises from a Redundance of Blood; for, when a Stricture is brought upon the Feet, that thick and rapid Serum stagnating in them is forc'd upwards, absorb'd by the Blood-vessels, and convey'd to the Præcordia; where being, with the rest of the Mass of Humours, carried from the Right Ventricle of the Heart, into the pulmonary Artery, and its Ramifications, it so fills these, that, by compressing the pulmonary Vessels, it resists the entering Air, and prevents a sufficient Ingress of it for propelling the Blood thro' the Veins: This Blood, therefore, which is impregnated with a viscid Serum, stagnates in the small arterial Ramifications, distends them in a violent manner, and, by that means, induces the highest Uneasiness, a Difficulty of Breathing, and, sometimes, a sudden Suffocation. This last Misfortune almost infallibly happens, if œdematous Swellings of the Feet are repel'd in those Patients, in whose Hearts there are polypose Concretions. I have observ'd, that in Patients of this Kind, when seiz'd with intermittent Fevers, if the Swelling of the Feet has suddenly disappear'd, under the cold Paroxysm; these Fevers have

brought on an intolerable Difficulty of Breathing, and, always; at the third cold Fit, a sudden Suffocation.

There is another Species of Asthma, which still better deserves the Name of Suffocative, and arises from polypose Concretions form'd about the Ventricles of the Heart. This Disorder frequently terminates in a sudden, Suffocation; and upon laying open the Bodies of those who have died of it, nothing preternatural is discover'd, except the polypose Concretions themselves. Observations confirming this are found in *Riverrus, Centur. 1. Obs. 82. Tulpius, Lib. 1. Cap. 27. Pezold. Observat. 58.* and in the *Ephemerides, Nat. curios. Dec. 3. An. 2. Obs. 185.* For since the polypose Concretions, especially about the Left Auricle of the Heart, block up the Passage of the Blood about to return from the Lungs, this Blood is accumulated in the pulmonary Vessels, by distending which, it hinders the free Access of the Air; and, unless the polypose Concretion is remov'd, terminates in a total Stagnation, and fatal Suffocation.

A Dropsy of the Breast, tho' generally the deplorable Effect of a convulsive Asthma, yet, when arising from this, or any other Cause, such as an Inflammation of the Lungs, or an external Injury, lays a Foundation for a violent suffocative Asthma. This Dropsy of the Breast may be known, from the following Diagnostics: Œdematous Tumors appear, not only in the Feet, but the Hands, the Swelling of which Parts is by the ingenious *Baglivi* acknowledged as the pathognomic Sign of this Disorder: For, says he, in his *Prax. Med. Lib. 1. 11.* "Those who labour under a Dropsy of the Breast, are affected with a Swelling of the Hands, and, sometimes, of the Arms themselves, as far up as the Elbows." In those afflicted with a Fluctuation or Dropsy of the Breast, we also observe, especially when they incline their Bodies to one Side, a Tremor of the Heart, a Torpor and Palsy of the Arms, a dry Cough, sometimes accompanied with the Expectoration of a pellucid Serum, and an anomalous Fever. When this Disorder is complicated with a Polypus of the Heart, which it generally is, the Patient is seiz'd with Palpitations of the Heart, and his Pulse is of the intermitting Kind.

A Dropsy of the Breast is an Extravasation of Lymph and Serum in its Cavity, and is produc'd in the following manner: That the external Coat of the Lungs is copiously furnish'd with lymphatic Vessels, is beautifully shewn by the celebrated *Nuck*, in his *Adenogr. curios.* These Vessels, as well as the other Lymphatics, found in many Parts of the Breast, carry back their Contents to the thoracic Duët, in order to be convey'd thence thro' the Subclavian Vein, and the Vena Cava, to the Right Ventricle of the Heart. When, therefore, the Passage of this Lymph is so obstructed, that it cannot reach the thoracic Duët, the lymphatic Vessels are too much stuff'd, and at last, being distended beyond their due Sphere of Elasticity, they are ruptur'd, and discharge their Contents into the Cavity of the Breast. Since, therefore, spasmodic Strictures of the Parts subservient to Respiration, and especially of the Lungs, which produce a convulsive Asthma, check and retard the Conveyance of the Lymph to the thoracic Duët, 'tis no difficult Matter to conceive in what manner they may at last produce a Dropsy of the Breast. On the other hand, this Collection of Waters in the Breast, by filling the whole Cavity of the Thorax, and pressing upon the Diaphragm, leaves no Space for the Lungs to expand themselves in; and therefore, by preventing the free Ingress of the Air and Blood into them, and hindering the Circulation of the latter thro' them, induces a suffocative Asthma, so call'd, because it puts an End to the miserable Patient's Life by a Suffocation. This extravasated Water, in the mean time, not only colligates the Lungs which float in it, but, in Process of Time becoming acrid, also corrodes, and almost consumes them with Putrefaction, as *Harderus* has observ'd, in *Lib. 1. Obs. 51.* As for the Dropsy of the *Pericardium*, it may not only be produc'd, in the same manner, from the lymphatic Vessels surrounding the Surface of the Heart, but is also increas'd by the Secretion of the Serum from its Auricles, when they are stuff'd with stagnating Blood.

Nor are we to overlook that Species of Dropsy in the Breast, the Waters of which are included in Hydatides, as in Bags, and which, for the most part, is found to have its Seat within the Substance of the Lungs. In practical Authors many Instances occur of these Hydatides, not only in the Lungs, but also in the Pleura, the Diaphragm, and the external Surface of the Heart. For Cases of this Nature, see *Otto Heurnius, Obs. 18. Bartholine, Cent. 2. Obs. 61. Acta Hafnienf. Vol. 3. Obs. 76.* and the *Ephemerides Nat. Curios. Cent. 3. & 4. Obs. 115.* These Hydatides seem to be generated in the Lungs themselves, by the lymphatic Vessels containing in their Substance being ruptur'd, and discharging their Contents into their small Cells and Vesicles; and 'tis highly probable, that, in consequence of a Rupture of these Vessels, the Serum may be extravasated into the Substance of the Lungs, and induce a sudden Suffocation. From this Circumstance we

also account for that limpid Matter, which is sometimes expectorated in certain Kinds of Coughs.

If any accidental Causes can concur to the Production of a convulsive Asthma, certainly external Cold, that formidable Enemy to the nervous System, is none of the least considerable of this Kind. Hence, in the Winter Season, and when the Winds blow from the northerly Quarters, this Disorder becomes more violent, and is also increas'd by drinking cold Liquors. I have, in a particular manner, observ'd that those Persons who do not carefully cover their Breasts, but foolishly expose them to the Cold, especially in the Night-time, are often subject to this Misfortune.

From what has been said, we understand the various Manners in which both convulsive and suffocative Asthmas are generated and increased. We shall, therefore, now consider the Prognostics of these Disorders. When the Misfortune is recent, and only depends upon the spasmodic Constriction of the Præcordia, some Hopes of the Patient's Recovery are left; especially if the arthritic and gouty Defluxions, Ulcers, and exanthematous Eruptions are drawn back to their proper Places. A Discharge of Blood either from the Uterus, or the hæmorrhoidal Veins, happening to those Patients who are seiz'd with an Asthma, and hypochondriacal Complaints, in consequence of a Suppression of these Evacuations, alleviates the Disorder; and, if it is recent, produces a perfect Cure: But if it should happen to be inveterate, or treated with preposterous and improper Medicines, it degenerates into a Dropsy of the Breast, Obstructions and Infarctions of the Viscera of the lower Belly, cedematous Swellings of the Feet, a Cachexy, and, at last, an universal Dropsy: For 'tis certain, that the Vena Cava, which conveys the Blood from the lower Belly to the Heart, passes thro' the tendinous Centre of the Diaphragm: Nor is it less certain, that the free Motion of the Diaphragm assists and promotes the Circulation of the Blood thro' the Liver, which is naturally languid. When, therefore, the free Ascent of the Blood thro' the Vena Cava is hinder'd, its Circulation thro' the Liver must, of course, become more slow. Hence the Humours, especially in those Parts of the Body which are more remote from the Heart, such as the Feet, stagnate, and deposit a serous Substance, which is the Cause of the cedematous Swellings. Afterwards the Humours move with Difficulty thro' the Viscera of the lower Belly, and stagnating in them, produce Infarctions, Scirrhuses, Cachexies, and Dropsy. Experience also, as well as the Observations of the ingenious *Lower* teach us, that when the Vena Cava is tied near the Diaphragm, a Dropsy is forthwith produced. In general, we must observe, that all convulsive Asthmas either produce a speedy Death, and sudden Suffocation, especially in Cases where there are polypose Concretions of the Heart; or they are protracted for a considerable time, and induce a Dropsy, which proves mortal, if the Patient is seiz'd with a slow Fever, has an unequal and intermitting Pulse, is affected with the Palsy of the Arms, a continual Palpitation of the Heart, a preternaturally small Discharge of the Urine, and a Syncope: When these Symptoms appear, we may be pretty certain the Death of the Patient is not far off. Some asthmatic Patients are cut off by a supervening Inflammation of the Lungs; and the more violent this Species of the Disorder is, the more languid also is the Pulse. When old Persons are seiz'd with an Asthma, the Disorder generally accompanies them to the Grave; and that Species of Asthma which arises from a Dislocation of the Vertebrae, admits of no Cure, till these are reduc'd. The longer, the more frequent and violent the Paroxysms of an Asthma are, the greater Danger of a Suffocation is.

The C U R E.

In an Asthma, the most important Intentions of Cure are these following: First, to soothe and alleviate the spasmodic Strictures of the Breast, and Parts subservient to Respiration: Secondly, to derive Humours to the exterior and inferior Parts of the Body, and to procure a due and equable Circulation of them: And, thirdly, to remove the several Causes which support the Disorder, by Medicines adapted to their respective Natures. As the two first of these Intentions are principally to be answer'd immediately under the Paroxysms, so the last is to be carried on in the Intervals between them.

Because under the immediate Shock of the Paroxysm the Patient is generally passive, and the Humours convey'd to the superior Parts along with the Flatulences, no Medicines afford a more instantaneous Relief, than emollient and carminative Clysters, injected twice or thrice, as the State and Condition of the Patient shall require. These Clysters are to be prepar'd of the Flowers of Elder, Melilot, Mullein, Piony, white Lilies, and common Chamomile, the Four carminative Seeds, and Oil of Chamomile by Infusion, together with the Addition of a Dram or two of common Salt, or Sal Gemme, by way of Stimulus. Excellent Effects are also produced by Frictions of the Feet, which are almost always cold, as also by Immer-

sions of them into moderately warm Water. When the Præcordia are rack'd with violent Spasms, we may, for removing this Symptom, with singular Advantage, apply to them warm Fomentations, or Bladders fill'd with warm Milk. These Spasms are also, sometimes, successfully allay'd by nervine Liniments, which I generally prepare in the following manner:

Take of the *Aqua Anhaltina*, two Ounces; of the Spirit of Sal Ammoniac, of Earth-worms, of the Essence of Saffron, and of Castor, each two Drams; of the Oil of Nutmeg, or Mace, one Dram: Make into a Liniment, to be apply'd to the Neck, the Scapulae, the Muscles of the Thorax, and the Spine of the Back.

With respect to internal Medicines, the best and most powerful are Antispasmodics, in Conjunction with mild Diaphoretics, which, by dissolving the peccant Matter, and relaxing the spasmodic Strictures, produce the most happy Effects. Of this Kind are, Mixtures of the analeptic Waters, prepar'd of the Flowers of the Lime, Piony, Primroses, Lilies of the Valley, *Egyptian Thorn*, and Meadow-sweet; the *Pulvis Marchionis*, native Cinnabar, the *Spiritus Nitri dulcis*, or the anodyne mineral Liquor, the *Mixtura Simplex*, and the Syrup of wild Poppies: These Mixtures are to be frequently exhibited; or they may be given alternately, with proper Doses of the anodyne Liquor, in Conjunction with the *Spiritus Bezzardicus Buffii*, or succinated Hartshorn. Besides, the Patient's Body is, as much as possible, to be kept moderately warm; nor is it proper and expedient to attempt any thing more under the immediate Attacks of the Paroxysms.

During the Intervals of the Paroxysm, our principal Intentions ought to be, to discuss the Humours stagnating in the Breast, to restore their free and equable Circulation, and, at the same time, to remove the material and immediate Causes of the Disorder. When, therefore, an Asthma is brought on by too large a Congestion of the Blood in the Thorax; after checking and allaying its Ebullition, by correcting Powders and Mixtures, we are to lessen its Quantity: This Intention is excellently answer'd by Venesections in the Feet, at proper and stated times, especially in Patients accusom'd to the Use of Wine. Scarifications may also, now-and-then, be used, in Patients habituated to them. In asthmatic Patients, labouring under a Suppression of the hæmorrhoidal Discharge, Leeches, applied to the Veins of the Anus, are productive of very happy Effects. Mild and gentle Laxatives, for eliminating the Sordes of the *Primæ Viæ*, and promoting the Circulation of the Blood thro' the Abdomen and the *Vena Porta*, proper Exercise, a slender Regimen, and light Liquors, drank in large Quantities, are also to be recommended in Cases of this Nature: And, if hypochondriacal and flatulent Symptoms appear, with so much the happier Success are gentle Laxatives and Clysters exhibited, in Conjunction with the Use of the *Elixir Viscerale*, and a proper Regimen: But particularly in Patients, labouring under a Suppression either of the Menfes, or the hæmorrhoidal Discharge, nothing is more beneficial than the warm *mineral Waters*, to be us'd both internally and externally; or the *Salterian Acidulae*, which are to be drank warm'd, with an Admixture of Milk. These Measures are, also, to be taken in the Cure of that Asthma, which draws its Origin from a Polypus of the Heart.

When an Asthma draws its Origin from the Retrocession or Repulsion of an arthritic, gouty, scabious, purpuraceous, or ulcerous Humour; that is, from the Translation of an acrid, peccant, and caustic Serum to the nervous Parts of the Breast, nothing is more safe and expedient, than by mild and gentle Diaphoretics, which promote a free Perspiration, to drive out the peccant Humour to the Surface of the Body, or force it back to the Parts whence it was repel'd. This Intention is excellently and speedily answer'd by the anodyne Liquor, mix'd with the *Spiritus Bezzardicus Buffii*; or by the bezoardic Powders, compos'd of diaphoretic Antimony, Nitre, the *Pulvis Marchionis*, prepar'd Amber, and a small Quantity of Camphire. This Medicine is most properly and commodiously us'd in the Morning, drinking after it some Cups of an Infusion, prepar'd, after the manner of Tea, of the Herbs Germanander, and Paul's-betony; the Flowers of Elder and the Lime; the Seeds of Fennel, and the *Asium Stellatum* (see ZINGI); after which, a gentle Sweat is to be promoted. In Cases where Scabs or Ulcers are either repel'd, or too soon heal'd, Preparations of Sulphur are of singular Service, since they are highly efficacious in repelling the Sordes to the Surface of the Body; for, as, in these Disorders, Preparations of mineral Sulphur, externally apply'd, are highly pernicious; so, on the contrary, when internally exhibited, by corroborating the Tone of the Parts, they contribute not a little to the Dissipation and Perspiration of the heterogeneous Matter: Nor, in Cases of this Nature, are we to neglect the Use of gentle Laxatives, and mild Diuretics, such as the Tincture of Tan-tur, and some others of a like Nature; since, by these the

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gross Sordes of the *Primæ Viæ*, and other Parts, are carried off by Urine. Washing the Feet is, also, of singular Service, by inviting the arthritic and gouty Matter to them.

When an Asthma arises from the Repulsion of œdematous Swellings of the Feet, either by violent Disorders of Mind; sudden Frights, excessive Cold, or a febrile Paroxysm, 'tis then no easy Task to discuss the Congestion of viscid Serum in the Breast, and recal it to the external Parts of the Body. In Cases of this Nature, I have seen the following diaphoretic Powder exhibited with signal Success:

Take of the Cerufs of Antimony, and calcin'd Hartshorn, each one Dram; of the *Cinnabaris Medicinalis*, two Scruples; and of the corrected Sulphur of Antimony, four Grains: Reduce all into a fine Powder; of which I generally give two Scruples for a Dose, ordering the Patient a Draught of some proper Infusion after it.

Besides, the Feet are to be kept warm, and carefully subjected to Frictions, in order to relax their Spasms, and expel the Cold. Clysters are, also, to be injected, and Laxatives, tho' of the most mild and gentle Kind, prescrib'd.

In a dry Asthma, arising from external Causes drying the Bronchia and pulmonary Vesicles, such as the Steams of Lead, an Atmosphere impregnated with the Exhalations of Quick Lime, or the Smoak of fossile Coal, the several Intentions of Cure are most effectually answer'd by those Medicines, which moisten the Parts, correct the Acrimony of the Humours, and relax the Fibres; such as Milk, Cream, Oil of sweet Almonds, Emulsions, Sperma Ceti, and the Fats of Animals; us'd both internally and externally.

When sulphureous or arsenical Steams, or the Effluvia of *Aqua fortis*, or Spirit of Vitriol, are received into the Lungs, (as it frequently happens to Miners, and such as are much engaged in chymical Preparations of these Bodies) most violent asthmatic Disorders and Peripneumonies are thence produced; In this Case, the Vapour of putrid Urine, with the Salt of Tartar dissolv'd in it, and immediately received into the Lungs, is the most effectual Pectoral; the acid, corroding Particles irritating the Lungs, being thereby corrected, and changed into an innocent, inactive, neutral Salt. *Barry, of a Consumption.*

In those Asthmas, where a Dropsy of the Breast is already form'd, the Cure is highly dubious and uncertain: In such Cases, the only Method of Relief seems to be a *Paracentesis*, or Tapping of the Thorax; an Operation, highly extol'd by some, particularly the celebrated *Carolus Piso, Scultetus*, in *Obs.* 31. and *Sylvius*, in his *Oper. Medic. Cap.* 50. Nor is there any Necessity for our declining this Operation, since, when perform'd by a skilful Hand, it is entirely free from Danger: But 'tis by some disputed, whether it always affords a certain and infallible Relief. *Hippocrates*, in his second Book *de Morbis*, judiciously advises, that this Operation should be perform'd, before the Disorder has made any considerable Progress, or injur'd any of the Viscera: And, indeed, when the Viscera happen to be injur'd, or exulcerated, I would not advise this Operation to be rashly ventur'd upon; but so long as these remain in a sound and natural State, it promises very considerable Relief. Besides, we must, in Conjunction with these means already mentioned, use mild Diuretics and Laxatives, especially such as are said to operate gradually, and without promoting a too sensible Evacuation; and these Measures are to be taken in the Beginning of the Disease, when 'tis, as yet, free from every Degree of febrile Exacerbation.

Before we quit this Subject, we think it expedient to subjoin those Remedies, which *Celsus*, in the fourth Chapter of his fourth Book, recommends in a Difficulty of Breathing: "Venesection, says he, unless contra-indicated by some important Circumstance, affords Relief. Nor is this, of itself, sufficient; for warm Goat's-milk is to be exhibited every Morning; and, if the Patient is not feverish, his Belly is to be render'd soluble. Extenuated Patients, when beginning to breathe more freely, are, sometimes, to be pretty briskly purg'd, and, sometimes, only to have their Bodies render'd gently soluble. The Head is to be laid high in Bed; the Thorax is to be reliev'd with warm Fomentations and Cataplasms, either of the moist or dry Kind: Besides these Measures, the Patient is to use Sorbitions, and mild Aliments, sometimes small Wine, and sometimes an Emetic: Those Medicines which provoke Urine are, also, beneficial; but nothing is more so, than walking slowly till the Patient is moderately weary, and using frequent Frictions, especially of the inferior Parts, either in the Sun, or before a Fire, both by one's self, and by the Assistance of others, till an Eruption of Sweat is produc'd."

Cautions and Admonitions to be observ'd in Practice.

Acrid Purgatives, such as Jalap, Gamboge, Coloquintida, Elaterium, and Spurge, as also drastic Emetics, especially those prepar'd of Antimony, are, in this Disorder, to be avoided with the utmost Care, since they more effectually dispose the nervous System to Spasms: But in that Species of

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cathectic Asthma, where the Breast is full of serous and viscid Humours, I generally, with great Success, exhibit small Quantities of emetic Tartar, in Conjunction with an Infusion of Manna, in order to restore such a Degree of Strength to the weaken'd Lungs, as may enable them to resist the stagnant Juices. In Cases of this Nature, well-corrected Sulphur of Antimony is, also, highly beneficial: Squills, in like manner, cautiously exhibited, are, in this Disorder highly extol'd, as productive of the happiest Effects, both by their inciding and resolvent Virtues. See an Account of the *Kermes Mineral*, under the Article *ANTIMONIUM*.

It is a common, but a monstrous and pernicious Piece of Practice, to attempt the Removal of those œdematous Swellings, which frequently accompany an Asthma, by means of drastic Purgatives; since nothing else can be expected from such a Method, but that the Patient should fall a more early Victim, than he would have otherwise done. Repelling Plaisters, and such as dry up and consolidate Ulcers of the Legs, are also highly injurious in asthmatic Cases. Nor are the Laconic Baths, with Spirit of Wine, always to be us'd with Safety; because they dry the Body too much, and repel the Tumors. But we may at once, with more Safety and Benefit, use dry Fomentations, and discutient Bags; exhibiting, at the same time, internally, Diaphoretics mix'd with Antispasmodics. Diuretics may also be safely and advantageously us'd, and pretty acrid Clysters injected.

Venesection ought never to be instituted during the Paroxysm of an Asthma, since, by that means, the Disorder becomes worse, and more obstinate; nor in the Intervals of the Paroxysms will it be of any Advantage, except in that Species of Asthma which arises either from a Redundance, or preternatural Thickness, of the Blood, in Conjunction with a Polypus of the Heart; or from a Suppression of accustomed Evacuations of Blood: In which Cases, Venesection about the Equinoxes, with a prophylactic Intention, is highly expedient. But 'tis to be observ'd, that a Clyster, in order to dispel the Flatulencies, and render the Body soluble, is always, with great Advantage, injected before Venesection.

Hot mineral Waters, especially in the Beginning of the Disease, as also the *Acidulæ*, which ought to be used warm, are of singular Advantage, both for the Prevention and Cure of this Disorder; especially when arising from a scorbutic Cacochymy, an Infarction of the Viscera, or a Suppression of critical Evacuations of Blood. On the contrary, when the Disease is become inveterate, when polypose Concretions are already form'd in the Heart, or when a Dropsy of the Breast is brought on, the Drinking of these accelerates the Death of the Patient, as I have found in various Instances; for, in Patients of this Kind, we find at once a surprising Relaxation of the Solids, and Obstructions of the Viscera; for which Reason, these mineral Waters cannot pass duly through the Emunctories, but, stagnating in different Places, not only increase the extravasated Serum in the Breast, but also produce new Tumors or Swellings in various Parts.

Greater Dependence is justly to be had on the external Use of hot Baths, especially of such as are not of an astringent, calcareous, and chalybeate Quality, but rather of those whose Waters are subtle, light, and impregnated with a certain alkaline Salt. In Cases of this Nature, I have seen very happy Effects produc'd by the Waters of *Toeplitz* and *Piperen*, since, by their relaxing and emollient Virtues, they surprisingly soften and solace the rigid Fibres, and, at the same time, render Perspiration more free and copious. But in Cases where polypose Concretions, or extravasated Waters, are suspected, these are by no means to be used. It is also to be observ'd, that Baths are of far more Efficacy for the Prevention, than for the Cure, of Asthmas.

In a cachectic State, accompany'd with an Asthma, Diuretics are found to be highly beneficial: Thus *Johannes Rhodius*, in *Lib.* 3. *Observat.* 27. assures us, that an Asthma of this Kind was cur'd in twenty-four Hours, by an Evacuation of thirty-seven Pints of Urine. With respect to Diuretics, *Baglivi*, in his Observations, has the following Words: "I have often observ'd, that in Diseases of the Breast, Nature herself indicates the Propriety of conveying the peccant Matter to the urinary Passages; for 'tis obvious, that there is a sensible and manifest Consent between the Legs, the Pudenda, and the Breast. But Diuretics, prepar'd of lixivial and acid Salts, are not safe in Diseases of the Breast, because they excite Coughs, and exasperate the Disorder." On the contrary, Powder of Millepedes, Preparations of Turpentine, moderately spirituous, but sufficiently alcaliz'd, Essence of Amber, Balsam of the Sulphur of Antimony, Decoctions of the aperient Roots, and *Fernelius's Syrup of Marshmallows*, powerfully provoke Urine, whilst, at the same time, they are not in the least injurious to the tender Membranes of the Lungs.

In spasmodic Asthmas, accompany'd with Cardialgias, as also in those arising from Strictures of the Diaphragm, I have often observ'd, that demulcent and anodyne Liniments, prepar'd

par'd of the recent Fats of Animals, the Fat of a Capon subtiliz'd by the Heat of the Sun, and the *Emplastrum Barbertanum*, enrich'd with Soap and Camphire, are far more effectual than hot and spirituous Substances.

In the Prevention, as well as in the Cure, of an Asthma, the Force and Efficacy of other Medicines is excellently assisted by the Air; which, the more pure, fine, and serene it is, the greater Relief it affords the Patient. Every one knows, that this Disorder is remarkably increas'd only by a Change of the Weather. The Antients, in this, as well as in other Diseases, accounted the Air a Circumstance of the last Moment and Importance. Thus *Caelius Aurelianus, Chronic. L. 3. C. 1.* informs us, "That in case of Stricture, 'tis expedient the Patients should be lodg'd in a Place moderately light and warm; that they should use Abstinence till the third Day, and be kept in a State of Rest both with respect to Body and Mind; applying, at the same time, to the Neck and Thorax, fine soft Wool, soak'd in sweet warm Oil."

In order to corroborate the nervous Parts of the Breast, and prevent Asthmas, besides the drinking cold, but pure and light Water, nothing is more beneficial than the Country Air, which *Bagliovi* recommends in the following Words: "In inveterate Asthmas, whether of the humoral or convulsive Kind, I order the Patient to retire to the Country Air, and to frequent Fields under Tillage. He ought, therefore, to follow the Labourer, walk in the Furrow, and draw in the nitrous, saline, and sulphureous Exhalations, arising from the fresh-turn'd Glebes of Earth. The Tone of the Lungs, weaken'd by a long-protracted Disease, is, by the nitrous and saline Substance of the central Heat of the Earth, corroborated, strengthen'd, and restor'd; by which means the Circulation of the Blood is freely carried on through the minute Vessels of the Lungs, and the Disease remov'd."

Both in the Relief and Cure of an Asthma, it is a Circumstance of great Moment, what Kind of Liquor the Patient drinks. All Ales, and especially that prepar'd of Wheat, are in this Case to be condemn'd. As rich and generous Wine creates an Ebullition of the Blood, it must of course increase the Congestion of the Humours, the Oppression of the Breast, and the Difficulty of Breathing; especially in Patients of a plethoric Habit. As Wine of an aqueous Nature, such as that produc'd on the Banks of the *Moselle* and *Neckar*, when recent, is ill calculated for corroborating the Fibres of the Stomach, and, consequently, for promoting Digestion; so it produces Flatulences, especially in hypochondriacal Patients. In asthmatic Cases, the most proper Liquor I have hitherto found, is old *Rhenish* Wine, mix'd with three or four Parts of pure Spring-water, or of the *Selteran* Waters. Besides, Infusions, by way of Tea, prepar'd of Hyssop, Paul's-betony, Garden Crowfoot, Ground-ivy, Liquorice-root, the Tragus [*Sea-grape*], and the Flowers of the Daisy, are highly beneficial in all Asthmas, from whatever Cause they may arise.

Such Substances as are too sweet, or prepar'd with Sugar or Honey, are in every Species of Asthma, but more especially those of the serous and hypochondriacal Kind, to be carefully abstain'd from; since, by injuring the Tone of the Stomach, they destroy Digestion, and, by that means, lay a Foundation for the Generation of Flatulences. *Frederic Hoffman*.

Other Authors mention some Things omitted by *Hoffman* in the preceding Treatise, and differ widely from him in many Circumstances, relative to the Method of Cure. Thus, in that Species of Asthma which is call'd *Idiopathic*, and which is a difficult Respiration, arising either from some Imperfection of the Lungs, or something of a noxious and peccant Quality contain'd in them, the celebrated *Pitcairn* orders the following Measures to be taken.

If the Asthma is highly dangerous, that is, if the Difficulty of Breathing is so great, that the Patient runs a Risque of being suffocated before Purgatives can be exhibited, and produce the design'd Effects, a Vein is always to be open'd; because Venesection never fails to lessen the Paroxysm, relieve the Patient, and afford a due Time for providing and exhibiting other Remedies. If a sudden Rarefaction of the Blood, or a Plethora, under which Word I comprehend a Suppression of any accusom'd Evacuation of Blood, should either produce or accompany an Asthma of this Kind, 'tis absolutely necessary the Patient should be blooded; since, in this Case, Venesection removes the Disorder.

In all Cases where this Disorder is neither produc'd nor accompany'd by a Plethora, a Vomit must always be exhibited at the Beginning; since, by the Concussion of the Body, it derives the peccant Matter from the Lungs; as it does in a sensible Manner from the Glands of the Eyes, the Nostrils, and Fauces. Nor is a Vomit to be only once exhibited, but frequently repeated, till the design'd Effect is produc'd.

Though, on account of my long Experience of the Virtues of antimonial Preparations, I prefer them to all other Emetics; yet, in this Case, I recommend between a Dram, and half an Ounce, or a whole Ounce, of Tobacco-leaves, boil'd in six

Ounces of Spring-water, till the Liquor is reduc'd to four. This Liquor, when express'd, strain'd, and edulcorated with Sugar, is a highly beneficial Vomit. Half of the Decoction may be taken at first; after which, the Patient is to wait till he vomits; but, if it should not produce this Effect, he is to take the other Half, drinking, at the same time, either warm Water, small Beer, or Beer Posset-drink.

If after the Vomit, or even when that Circumstance has been neglected, the Strength of the Patient should be found low and impair'd, a Purgative of the Juice of common Orrice-root, or that of the Dwarf-elder, is to be exhibited in the Interval of the Paroxysms; or the following Pills, with a proper Addition of *Mercurius Dulcis*, may, with great Advantage, be us'd:

Take of Gum-ammoniac, Diagrydium, and Resin of Jalap, each half a Scruple; of the volatile Salt of Amber, five Grains; and of Elixir Proprietatis, a Quantity sufficient for forming a Mass of Pills to be taken for one Dose.

Once every Day, on which the Patient is not purg'd, or at least when the Course of Purgings is at an End, we must exhibit alternately the Juice or Infusion of twenty-five or thirty live Millepedes in four Ounces of *Spanish* or *Rhenish* Wine, or one Scruple of Gum Ammoniac, dissolv'd in two Ounces of warm Penroyal-water.

But to these I prefer half a Dram of Sperma-ceti, exhibited in warm Wine or Ale; for this Medicine is of so great Efficacy in preventing the Paroxysm, that, next to Venesection, it deserves the highest Encomiums; and, in weak Constitutions, is even to be prefer'd to it. Next to this, I esteem the express'd Juice, or an Infusion of Millepedes; then Gum Ammoniac, dissolv'd in *Aqua Vitæ*, or any spirituous Water: The next in Efficacy are, the Flowers of Benzoin, any volatile Salt, either dissolv'd or dry, and the Powder of Millepedes. All these Medicines are proper during the Paroxysm.

Great Advantage is also perceiv'd from a Decoction of the Wood and Bark of Guaiacum and Sassafras, or of the Root of the greater Burdock, in Spring-water. Nor is any Medicine more effectual than Ale, impregnated with Millepedes; ten or more of which, taken alive, and gently bruised, and bound up in a Cloth, are to be allow'd for each Pint of fermenting Ale. This Liquor is to be used as the Patient's ordinary Drink; or let a sufficient Quantity of the following Tincture be exhibited:

Take of *Spanish* Wine, one Pint; of the Flowers of Sulphur, two Drams; and of the volatile Salts of Hartshorn and Amber, each two Scruples: Let them stand in Digestion for four Days. This was the Secret of the celebrated *Willis*.

Sir *John Floyer* was afflicted with an Asthma from the seventeenth Year of his Age to the Time of his Death, which happen'd when he was considerably above fourscore. As he had read more than most Gentlemen of his Profession, his own Disorder, and others which he attended, afforded him infinite Opportunities of comparing the Phenomena of this Disease, with what he found in Authors; and, as he has taken notice of many Circumstances relative to Practice, I should advise the Reader to consult his Book on an Asthma, which is too long to be inserted in this Place.

DYSRACHITIS, *δυσραχίτις*. The Name of a Plaister describ'd in *Galen's Treatise de Comp. Medic. per Genera, Lib. 5. Cap. 3.* and recommended for Fistulas and callous Sinuses.

DYSTHANATOS, *δυσθάνατος* from *δύς*, importing Difficulty; and *θάνατος*, Death. This Adjective is apply'd to any thing which either induces or prognosticates a laborious and painful Death; or it is apply'd to a Person who dies a lingering or painful Death.

DYSTHERAPEUTOS, *δυσθεραπεύτος* from *δύς*, importing Difficulty; and *θεραπεία*, to heal. Difficult to heal.

DYSTHESIA, *δυσθήςια* from *δύς*, to be uneasy; *Μωροσενής*, or Impatience, under Distempers.

DYSTHRAUSTOS, *δυσθραύστος* from *δύς*, importing Difficulty; and *θραύω*, to break; not easily broken.

DYSTHYMIA, from *δύς*, importing Uneasiness; and *θύμη*, the Mind; Anxiety, Despondence, or Dejection of Mind.

DYSTOCHIA, from *δύς*, importing Difficulty; and *τίκτω*, to bring forth Young; difficult Labour, or Child-birth. See PARTUS.

DYSTOECHIASIS, *δυστοεχίασις* from *δύς*, importing bad; and *οίχθω*, Order; an irregular Disposition of the Hairs in the Eye-lids. *Castellus* from *Forellus*.

DYSTROS, *δύστρος*. The *Macedonian* Name for the Month of March. It occurs in *Actius, Tetrabib. 1. Serm. 3. C. 164.*

DYSURIA, *δυσουρία* from *δύς*, importing painful; and *ὑρῶν*, Urine: It implies a rendering of the Urine with a Sensation of Heat

Heat and Pain: It is distinguished from a Strangury, as, in the last, the Urine is voided by only a Drop, as it were, at a time, but, however, with Pain; and from an Ischury, as in this Disorder there is an almost total Suppression of Urine. A Dysury constantly attends a virulent *Gonorrhœa*, accompanies many other Distempers, as a Symptom; and is frequently excited by very acrimonious Medicines, and the external Appli-

cation of Cantharides. In a Dysury, emollient and mucilaginous Medicines, as Gum Arabic dissolv'd in Barley-water, Emulsions; and Decoctions, with an Addition of Nitre, copious Draughts of diluting Fluids, and Camphire, are usually prescrib'd.

See the Article CALCULUS; where the various Causes of Dysuries are more fully treated of.

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E. The ancient *Greeks*, as we are told by *Galen*, *Com. 3. in 6. Epid. T. 40.* had but one Character, which was ϵ , to express their *Epsilon* and *Eta*, or e short, and e long: He makes the same Observation on the \omicron , *Omicron*, and ω , *Omega*, which were formerly, he says, express'd also by one Character. And this Multiplication of Letters, he observes, has been the Occasion of Multitudes of Errors in Transcribers, by making Permutations of the Letters, contrary to the Sense of Authors.

For the Signification of E in the chymical Alphabet, see ALPHABETUM.

EBEL. The Seed of Sage, or of Juniper. *Rulandus*.

EBENUS ÆTHIOPICA, Offic. *Palma Haira*, Park. Theat. 1667. *Palma Americana spinosa*, C. B. Pin. 507. Raii Hist. 2. 1363. Pluk. Almag. 277. Phytog. 103. *Palma tota spinosa major, fructu pruniformi*, Cat. Jam. 177. Sloan. Hist. 2. 119. *Palma Brasiliensis sexa Airi*, Pil. (ed. 1658.) 129. *Palma Partoricensis, spinosissima; vinifera*, Hort. Beaum. 32. *Palma facie Haira*, J. B. 1. 393. *Palma Americana Haira sive Ayri*, Jonf. Dendr. 144. THE MACOW OR EBONY-TREE.

It grows in *America*: Its Wood, which is black, and of a very dense and solid Substance, is us'd. *Plukenet*, describing the Tree, says, that its Wood is like black Marble, and sinks in Water like Iron.

There are two Species of Ebony in Use among Mechanics; but whether either of them be the true and genuine Ebony of the Antients, remains a Controversy. *Dioscorides* describes two Species: "The first, he says, is brought from *Ethiopia*, is black, and has no Veins interspers'd; is smooth like polished Horn: When broken, appears of a dense and close Substance; and has a pungent Taste, with an Astringency. The other Sort comes from *India*, is interspers'd with white and yellow Lines, and spotted; but the first Species is the best." *Pliny*, in his Description of it, says, "It was a rare Tree, and grew in the Country between *Siene*, the Limit of the Empire in *Egypt*, and *Meroe* in *Ethiopia*, which produced no other Trees, but those of the Palm-kind. *Fabianus* says that it will not flame, but will, however, burn; during which, it emits a pleasant Smell. There are two Species: The rare Ebony, which is the best, grows to a Tree, whose Trunk is without Joints; the Wood black and shining, and very pleasant to the Sight, in its native Beauty; the other Species is a Shrub, resembling the *Cytisus*, and grows in all Parts of *India*."

Ebenus Offic. C. B. Pin. 448. J. B. 1. 394. Jonf. Dendr. 423. Raii Histor. 2. 1805. *Ebenum sive Lignum Indicum*, Camel. Syll. 64. EBONY.

I take this Tree, says *Dale*, with *Camellus*, to be the true Indian Ebony of the Antients: It is a bacciferous or Berry-bearing Tree, with Leaves of the Size of those of the Walnut-tree. *Camellus* makes seven Species of Ebony, the first of which is the *Ebenus Æthiopica*, last described under that Title.

The Part in Use is the Heart, or medullary Substance, of the Wood, which is black, and extremely hard. Ebony, by all the Antients, was accounted good for the Eyes. The Powder of it, says *Pliny*, is reported to be a Specific for the Eyes; and the Wood, triturated with Passum, to cure Dimness of Sight. *Zacutus Lusit.* says it is of Service in statulent Convulsions. Ebony, as *Dioscorides* says, has an extensive Virtue in cleansing the Pupil of the Eye, from whatever darkens the Sight; and is good for inveterate Rheums and Pustules in the Eyes: If it be used instead of a Stone in Triturations for preparing of Collyria, these Medicines will have the better Effect. An excellent Ingredient in Collyria is prepar'd of the Dust or Shavings of Ebony, macerated a Day and a Night

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in Chian Wine, and then carefully triturated: Some, after Trituration, pass it through a Sierce, and so use it; and some again put Water instead of Wine. They burn it, also, in a crude, or unbak'd, earthen Pot, till it be reduced to Coals; and wash it in the manner of burnt Lead: Thus prepared, it is effectual in dry and scurfy Ophthalmies. *Dioscorides*, Lib. 1. Cap. 129.

Another Species of the Ebony is the

Alcoa arbor Populnea fronde, tota argentea, quinque capsularis, seu Ebenus, viridis ex Insula S. Helena, ubi ab Anglis illic degentibus, BLACK-WOOD AND EBONY; i. e. *Lignum Nigrum*, & *Ebenus nominatur*, Raii Hist. 3. 520.

Mr. Ray was of Opinion, that this is the genuine Ebony of the Indians. It is disputed, at present, what was the Ebony of the Antients; some taking it for a Species of Palm-tree, others of Guaiacum, others of *Cytisus*: But there are two Species of Wood found in the Shops of Joiners, and other Mechanics; one imported from the East Indies, as *Helbigius* observes, which is that here meant; the other is of a filiquous or Pod-bearing Tree of *America*, as we are informed by that very learned Botanist Sir *Hans Sloane*; which being of no Use in Medicine, we shall say no more concerning it. *Dale*.

EBISCUS. A Name for the ΑΠΗΛΑ, which see *Blancard*.

EBRIECATUM. A Term us'd by *Paracelsus*, to express the partial Loss or Depravation of Reason; as it happens during Drunkenness.

Ebriecatum Cœleste, in the same Author, seems to import such a divine Enthusiasm, or Inspiration, as the *Sibyls* among the Antients boasted of, and, among the Moderns, the *French* Prophets, and many other religious Sects. *Paracelsus* himself, as it should seem, pretended to be under some such Influence: But it is paying Heaven a very indifferent Compliment, to attribute unintelligible Nonsense, such as a Person utters when drunk or mad, to divine Inspiration.

EBRIETAS, Drunkenness.

Among the Aphorisms of *Hippocrates*, there is one, 5 Aph. 5. which respects Ebriety, and is thus express'd: "If a drunken Person lose his Voice on a sudden, he dies in Convulsions, unless a Fever seizes him, or his Voice returns at the going off of the drunken Fit." Here *Galen* observes, "that it is usual with *Hippocrates* to call those who labour under a Carus, by the Name of ἀφρονι, "mute, or depriv'd of Voice." But a Carus, *Galen* says, is a sudden Insensibility and Immobility of the whole Body; which Disposition is, by *Hippocrates*, usually denominated from one of its most remarkable Symptoms. He names no particular Time for the Solution of the drunken Disorder, because none can be assign'd, since all are not circumscribed by the same Measure: Some recover their Senses the next Day, others the Night following, and some not till the third Day, in proportion to the Quantity and Strength of the Wine (Liquor), and the Nature of the Person who drinks it; for as the same Meats require different Times for Digestion in different Bodies, so it is with Drink. We ought, therefore, to be perfectly acquainted with the Nature of the Person, or observe the Time when he comes to himself; and if, at that Term, he is free from a Fever, and has not recover'd his Speech, he will die in Convulsions."

Though Sleep, says *Prosper Alpinus*, in Drunkenness, as some are of Opinion, can neither be absolutely approv'd, nor condemn'd, yet we have known several drunken Persons, who, after continuing a Day and a Night in a profound Sleep, never more revived. *Prosper Alpinus de Præfag. Vit. & Mort.*

See ALCOHOL.

EBRON,

EBRON, Paradise, in the Phrase of *Paracelsus*; that is, the Place inhabited by our first Parents.

EBSEMECH. *Langius*, in his *Harmonia Chymica*, uses this Word to express Quicksilver, sublim'd from *Cambar*, perhaps meaning *Cinnabar*.

EBULLITIO, Ebullition. This is, properly, a violent Degree of Boiling, till the Liquor bubbles. But the Chymists apply it, analogically, to the Bubbling of any Fluid during Effervescence or Fermentation.

EBULUS. A Name for the *Sambucus Humilis*, Dwarf Elder. See *SAMBUCUS*.

EBUR, Ivory. See *ELEPHAS*.

ECAPATLI. A Name for the *Senna Orientalis*; *fruticosa*; *Saphera diſſa*.

ECBOLICA, from ἐκβάλλω, to cast out. Forcing Medicines, which forward Delivery; or Medicines which cause Abortion.

ECBRASMATA, ἐκβεράσματα from ἐκβέρω, to cast out, as the Sea does the Wreck of a Ship; or from βερίζω, to be very hot. Fiery Puftules breaking out on the Surface of the Body. *Galen. Paulus Aegineta. Virgil* calls these *Ardentes Papulae*, *Georg.* 3. *V.* 564. and represents them as the Effects of wearing Cloths made of the Wool of Sheep, that dy'd of a Murrain he there describes.

ECBYRSOMATA, ἐκβυρσώματα from βύρσα, a Skin. Eminences or Protuberances of the Bones at the Joints, which appear thro' the Skin. *Galen.*

ECCATHARTICA, from καθαίρω, to purge. According to *Gorræus*, Eccathartics are Remedies, which, apply'd to the Skin, open the Pores: But, in general, they are understood to be Deobstruents; but sometimes imply expectorating Medicines; and, at others, simply, Purgatives.

ECCHYLOMA, ἐκχύλωμα from χυλός, Juice. An Extract. *Ecchyloſis* implies Extraction, or the making an Extract.

ECCHYMATA, ἐκχύματα from ἐκχύω, to pour out. The same as *ECBRASMATA*.

ECCHYMOSIS, or ECCHYMOMA, ἐκχύμωσις, or ἐκχύμμα from ἐκχύω, to pour out; or, perhaps, from ἔξ, without; and χυμός, Juice, or Humour. A Disorder of the superficial Parts of the Body, which happens, when by a Contusion the capillary Vessels are broken, and their contain'd Fluids extravasated; which, stagnating, change the natural Colour of the Part, to brown, livid, or black. The *Ætiology* of an *Ecchymosis*, and its Distinction from a Sugillation, is specify'd under the Article *CONTUSA*, which see.

ECCLISIS, ἐκκλισις from ἐκκλίνω, to bend, or turn aside. In *Hippocrates*, *Lib. de Articulis*, it imports a Recession of a Bone from its proper Situation; that is, A Luxation.

ECCOPE, ἐκκοπή from κόπτω, to cut; *Excision*, or Cutting out; properly of a Bone in a fractur'd Skull. *Galen.*

ECCOPEUS, ἐκκοπέτης of the same Derivation with the preceding Word. A surgical Instrument us'd by the Antients for the same Purposes, as the modern Surgeons employ a Lenticular, or Raspatory. It was a Knife for cutting out Bones, particularly of the Head; and for rasping or scraping down morbid Eminences.

ECCOPROTICA; from κόπρω, Dung. Mild Cathartics, whose Operation extends no farther than the intestinal Tube, and whose Contents only they evacuate.

ECCRINOLOGICA; from ἐκκρίνω, to secrete, or separate: That Part of Medicine which relates to the Doctrine of Excretions, or the Discharge of Excrements out of the Body.

ECCRISIS, ἔκκρισις. An Excretion of excrementitious or morbid Matter, by any of the Emunctories, as it happens in a perfect *Crisis*. The Matter, thus excreted, is, also, sometimes call'd by that Name.

ECDORA, ἐκδορά from δίδω, to excoriate; Excoriation in general; and, particularly, of the Urethra, in *P. Ammannus*.

ECDORIOS, ἐκδορίος of the same Derivation as the preceding Word. An Epithet for caustic or escharotic Medicines, which have the Power of excoriating the Parts, to which they are apply'd.

ECHECOLLON, ἐχέκλον from κόλλα, Glue. A glutinous, tenacious, and adhesive Topic, or external Medicine.

ECHIEL, The Sun. *Laurentius Ventura, de Ratione conficiendi Lap. Philosoph.*

ECHELION, ἐχέλιον. The Name of a certain Plant. The Word occurs in *Nicolaus Myrepsus*, *Scet.* 8. *C.* 56. But it is not known what Plant he means, unless it be, as *Fuchsius* conjectures, the *Echium*.

ECHINEIS, ἑχίνεϊς. The Fish call'd *REMORA*, or Sea-Lamprey. See *REMORA*.

ECHETROSIS, ἐχέτρωσις. The Name by which *Hippocrates* calls the white Bryony, in his Treatise *de Natura Muli-licri*, and in the first Book *de Morbis Mulierum*.

ECHIDNA, ἑχίδνα. The Viper. See *VIPERA*.

ECHINIDES, ἐχινίδες in *Hippocrates*, seem to be a small

Kind of Sea-hedgehogs; of which he makes frequent Use in his Treatises on the Nature and Diseases of Women; or else Sea-thistles, call'd by him (*Lib. περὶ γυναικ. φυσ.*) τελεβοιοι πα-εσθαλδωτοι, and much us'd in Purgations of the Womb. The same in *Athenæus* are called ἐχίνοι, and ἐχινόποδες, from their being thick-set with Prickles, like the *Echinus*, or Hedgehog. This Water-thistle is of a cold and astringent Quality, and, therefore, effectual in Inflammations and Defluxions, *Galen. Lib. 8. Simpl. Meu.* The ἐχίνος is, also, an Herb, *Lib. 6. Med. Simpl.* called, also, ἑώνος and, by the *Latins*, *Ocymum aquaticum*; whose Fruit is a Repellent, and a Drier, and, consequently, accommodated to Defluxions. The Body of the Sea, as well as the Land Echinus, is of an extensive and digestive Quality. *Cornarius*, for ἐχινίδες, in *Hippocrates*, reads χινίδες, and expounds it of the Fruit of the Lentisk-tree. *Calvus* renders it, *Quernus erinaceos*, "Oaken Hedgehogs;" perhaps because ἐχίνοι, in *Hesychius*, are said to be δρυὼν ἐκ κύπελλοι, "the Cups of Acorns." So in *Lib. περὶ γυναικ. φυσ.* for ἐχίνος *Cornarius* read χίνος, "the Leaves) of the Lentisk-tree:" ἐχίνος in *Hesychius*, is also the Fruit of the Plane-tree, and a Kind of Pomegranate: ἐχίνος, also, in *Hippocrates* signifies a great wide-mouth'd Pot. There are several other Significations of the Word in Grammarians, which would be superfluous in this Place.

ECHINATE SEEDS; of *Echinus*, a Hedgehog; such Seeds of Plants as are prickly and rough.

ECHINOMELOCACTOS. A Name for the *Melocactos Indiae Occidentalis*; and for the *Melocactos Americana*; minor.

ECHINOPHTHALMIA; from ἐχίνος, a Hedgehog; and ὀφθαλμία, an Inflammation of the Eye. An Inflammation of those Parts of the Eye-lids, which are beset with Hairs.

ECHINOPHORA.

The Characters are;

The Calyx consists of one quinquefid stellated Leaf, including the Pedicle of the Umbella: The Fruit consists of one echinated or prickly Capsula, containing one long Seed.

Boerhaave mentions but one Species of this Plant; which is,

Echinophora; *Pastinacæ folio. T. 656. Pastinaca, Echinophora, Apula, & scandix. Col. 1. 101. Pastinaca, sylvestris, angustifolia, fructu echinato. C. B. P. 151. ECHINOPHORA WITH A PARSNIP-LEAF.*

Boerh. Ind. alt. Vol. 1. p. 64.

I don't find any medicinal Virtues attributed to this Plant.

ECHINOPODA *Cretensis*. *J. B. Echinopoda frutex Creticus. Park. Genista-spartium spinosum Aphyllon alterum, tri- bus aculeis semper junctis, floribus luteis, C. B. An Scorpius secundus, Clusii?*

This small thorny Bush grows up with many thorny green Sprigs and Branches, set close together, having always three Prickles, or Thorns, growing together; and is seldom seen to have any Leaves there, because they fall away so quickly (*Alpinus* saith it never beareth any). The Flowers hereof grow at the Tops of the Branches in great Plenty, (but *Alpinus* denies it, and says, it bears but very few) are yellow, whereof the Bees never taste, standing in whitish-green Husks, a little hoary all over, and these are succeeded by small Pods, with very small Seeds in them. This is very tender to keep, not enduring any cold Place, Summer or Winter.

It not only grows in *Crete*, but in the Island of *Chios*, and all over *Greece*.

ECHINOPUS.

The Characters are;

It has the Appearance of a Thistle; the Leaves grow in alternate Order: The Floscules consist of one small fistulous Leaf, divided into five Segments, which are rolled outwards; these grow on the Top of the Ovary, within its downy Crown; and are collected into one spherical, echinated, or prickly Head, without a common Calyx, or Crown, to surround them. The Ovary arises out of a Calyx, consisting of many small scaly Leaves, and is of a cylindrical Form, adorned with a downy Crown. All these Parts being closely and densely compacted, adhere to an Axis, so as to form one spherical Head.

Boerhaave takes notice of five different Species of this Plant:

1. *Echinopus*; major, *J. B. 3. 69. Tourn. Inst. 463. Boerh. Ind. A. 135. Crocodilion, Offic. Echinopus, Chab. 351. Scabiosa Cardui folio, Sphaerocephala elatior, Herm. Cat. 539. Carduus globosus, Ger. 990. Emac. 1151. Carduus Sphaerocephalus latifolius vulgaris, C. B. 381. Raii Hist. 1. 383. Hist. Oxon. 3. 163. Carduus Sphaerocephalus sive globosus major, Park. Parad. 332. GLOBE-THISTLE.*

This Plant is cultivated in Gardens, and flowers in Summer. The Parts us'd in Medicine are the Root and Seed. The Root, drank, excites a copious Hemorrhage at the Nose, and is given with good Success in Disorders of the Spleen. The Seeds provoke Urine. *Dioscorides.*

Crocodilion is describ'd by *Dioscorides* "as having the Appearance of the black Chamæleon, to grow in Woods, to have a long, smooth, and somewhat broad Root, and an acrimonious Smell, like *Nasturtium*." But what is the Plant here meant, though there be several in Botanic Writers call'd by that Name, is not easy to determine. Some will have it to be the *Carlina Thistle*, others *Eryngo*; who are both confuted by *Matthiolum*, whose Reasons are here omitted for the sake of Brevity. *Andreas Lucana*, the Authors of the *Adversaria*, and *Lobel*, in his *Observations*, give the Name of *Crocodilion* to the Plant here exhibited; to whose Authority, says *Dale*, at present, I submit my Opinion, because it seems best to agree with the Description above given. *Dale*.

2. *Echinopus*; major; humilior; floribus albidis, *Flor.* 2. 57. *Carduus*, *Sphærocephalus*, latifolius, vulgaris, flore albo, C. B. P. 381. Var. GREATER DWARF GLOBE-THISTLE, WITH WHITISH FLOWERS.

3. *Echinopus*; major; flore candido, staminibus in medio cœruleis, T. 463. *Carduus*, *Sphærocephalus*, latifolius, vulgaris, flore flammibus in medio cœruleis, C. B. P. 381. Var.

4. *Echinopus*; folio acanthi aculeati tenuiter laciniato; flore albo, *Boerb. Ind. A.* 135. *Spina alba*, Offic. *Spina alba quibusdam capite echinato*, J. B. 3. 71. *Acantha Caucas sive Spina alba*, Chab. 351. *Carduus globosus acutus*, Ger. Emac. 1151. *Carduus Sphærocephalus acutus minor*, Park. 977. *Carduus Sphærocephalus capitulo longis spinis armato*, C. B. 382. Hist. Oxon. 3. 163. *Raii Hist.* 1. 383. *Echinopus Creticus capite magno aculeato*, T. Coroll. 34. *Scabiosa acanthoides conglobato capite longis spinis munito*, Pluk. Almag. 333. PRICKLY GLOBE-THISTLE. *Dale*.

This Plant is cultivated with us in the Gardens of the Curious, and flowers in Summer. The Root and Seed are used in Medicine; the Root is effectual in the Cœliac Passion, provokes Urine, and in a Decoction cures the Tooth-ach; the Seeds help Convulsions in Infants, and the Bites of Serpents. *Dioscorides*.

The *Spina alba* of *Dioscorides* is describ'd "to have the Leaf of the white Chamæleon, but narrower and whiter, and somewhat rough and prickly, a Stalk above two Cubits high, and as big as a Man's Thumb, or bigger, whitish, and hollow, bearing on its Top a prickly Head, like that of the *Echinus marinus*, but less, and of an oblong Figure. The Flowers are purple, and the Seed like that of the *Cnicus*, only rounder."

This Plant is also controverted, and has exercised the Wits of some learned Men, and divided them into Parties. *Anguillarius*, and others, assert it to be the same we have here specify'd, whose Opinion seems most probable, as agreeing best with the Description; for which Reason we have bestow'd that Name upon it. *Dale*.

5. *Echinopus*; minor; annuus; capite magno, T. 463. *Carduus*, *Sphærocephalus*, annuus minor, M. H. R. B. *Scabiosa*, *Cardui folio annua*, Par. Bat. *Carduus*, *Sphærocephalus*, annuus, *Lusitanicus*, tenuiter laciniatus, M. H. 3. 164. a. LESSER ANNUAL GLOBE-THISTLE, WITH A LARGE HEAD. *Boerb. Ind. alt. Plant. Vol.* 1.

The *Historia Plantarum*, attributed to *Boerhaave*, remarks, that these Plants are taken little Notice of in Medicine, but are balsamic and glutinous.

ECHINUS is the prickly Head or Cover of the Seed or Top of any Plant; so call'd from its Likeness to a Hedghog.

ECHINUS, Offic. *Jons. Exang.* 39. *Aldrov. de Exang.* 403. *Bellon. de Aquat.* 384. *Charlt. Exer.* 62. *Echinus marinus*, Lill. Hist. A. A. 169. *Mer. Pin.* 192. *Echinus major*, Gesn. *Aquat.* 350. *Echinus Ovarius*, *Riolan.* 1. 578. *Echinus Ovarius rotularis dictus, subflavescens, viginti striis, quarum decem e papillis, & aliæ decem e transversis lineolis conflatae sunt, interstitia striarum, punctulis minimis occupantibus*, Lang. Hist. Lap. 124. Tab. 35. *Echinus Cidaridis milliaria basi pulvinata; rarioribus & minoribus eminentiis*, Klein. Echinod. 17. Tab. 2. C. D. *Echinus Ovarius secundus*, Mort. North. 231. Tab. 10. Fig. 3. *Echinus Ovarius*, Plot. Hist. Oxon. 107. Tab. 5. n. 5. Lill. Hist. A. A. 222. Tab. 7. n. 23. *Echinus ex alterâ parte planus, ex alterâ subsphæricus purpurascens, aculeorum vestigiis parum eminentibus*, Ejusd. App. 27. THE SEA HEDGHOGE.

It is taken in the main Sea: As to its Virtues, it is friendly and beneficial to the Stomach and Belly, and provokes Urine. The crude Shell, toasted, is a good Ingredient in Medicines for absterging the Psoa; and the Ashes of it, burnt, cleanse foul Ulcers, and repress proud Flesh. *Dale* from *Dioscorides*. See ECHINIDES.

ECHINUS OVARIUS, Plot. Hist. Oxon. 126. Tab. 5. Fig. 4. Mort. Woodw. Attempt. Tom. 1. P. 11. n. 178. North. 232. Tab. 10. Fig. 5. *Echinometra circinata papillis maximis*, Broyn. Sched. 55. Tab. 1. Fig. 1, 2. *Echinus spoliatus a spinis suis*, Aldrov. Exang. 403. *Jons. Exang. Aquat.* Tab. 12. *Echinites albo cinereus*, Lill. Hist. A. A. 221. Tab. 7. n. 22. *Echinites Ovarius subluteus major quinque striis incurvatis & duplici serie transversarum linearum conflatis, quolibet interstitium* VOL. II.

striarum decem scutillis, reliquum vero spatium innumeris minimis papillis occupantibus, Lang. Hist. Lap. Helv. 123. Tab. 35. F. 1. *Echinites orbiculatus latilavins medius*, Luid. Lithop. Brit. 45. n. 915. *Echinites cidaris mamillata*, 11. Klein. Echinod. 19. Tab. 7. A. *Istria dimare petrificato*, Scill. le vana Specul. 148. Tab. 24. *An Ovum agrinum*, Boet. de Lap. 347. Lact. de Lap. 109. THE GREAT SEA URCHIN. *Dale*.

The Part in Use is the Glandule or Spike, call'd the *Jew-stone* of the Shops. See farther of it, with its Virtues, under JUDAICUS LAPIS.

ECHINUS TERRESTRIS. See ERINACEUS.

ECHIS, ♂χϛ. The Male Viper.

ECHIUM.

The Characters are,

The Calyx is very large, and divided into five long slender Segments. The Flower is monopetalous, cylindrical at the Bottom, Funnel-shap'd, and inflected; the upper Part extends above the other, in such a manner, as to form a bifid Galea, and a trifid Lip or Beard; it is furnish'd with five Stamina, which are inflected, and in a manner corniculated; the Seeds are like a Viper's Head.

Boerhaave mentions eleven Species of this Plant; which are,

1. *Echium vulgare*, C. B. Pin. 254. *Raii Hist.* 1. 498. *Synop.* 3. 277. J. B. 3. 586. *Hist. Oxon.* 3. 440. *Tourn. Inst.* 135. *Boerb. Ind. A.* 194. *Ger. Emac.* 802. *Park. Theat.* 414. *Rupp. Flor. Jen.* 176. *Mer. Pin.* 34. *Buxb.* 100. *Chom.* 100. *Phyt. Brit.* 36. *Echium*, Offic. Chab. 517. *Rivini. Irr. M. Dill.* Cat. Gissl. 96. VIPERS BUGLOSS.

The lower Leaves of Vipers Bugloss are pretty long and large, broadest at the End, somewhat round-pointed, hairy and rough, almost to Prickliness; the Stalk grows to be about a Foot high, or more, round, rough, and prickly, having many smaller, narrower, and sharp-pointed Leaves, growing alternately without Foot-stalks. The Flowers grow in Spikes, curl'd inward, like a Scorpion's Tail, and opening gradually; they are large and gaping at the Mouth, the upper Lip being much longer than the lower, of a blue Colour, with several red Stamina, standing in hairy Calyces, in which grow four rough Seeds, in Shape like Vipers Heads. The Root is thick and brown, not much branch'd, but growing deep in the Earth.

The Leaves are us'd, being esteem'd to be good for the Biting of Vipers, and other venomous Creatures. *Dioscorides* says, that, if it be held in the Hand, no venomous Creature will come near the Person to sting him for that Day. *Miller's Bot. Off.*

I find nothing related with Certainty concerning the Virtues of this Plant. *Wittenbergius* prescribes half a Dram of the Powder of the dry'd Root, to be taken in Wine or Beer, for the Epilepsy, and unnatural Heats. *Ray* from J. *Bauhine*. *Dioscorides* says, that it cures Pains in the Loins.

2. *Echium*; Creticum; latifolium; rubrum, C. B. P. 254. M. H. 3. 441. BROAD-LEAV'D CANDIA VIPERS BUGLOSS, WITH A RED FLOWER.

3. *Echium*; Creticum; angustifolium; rubrum, C. B. P. 254. M. H. 3. 441. NARROW-LEAV'D CANDIA VIPERS BUGLOSS, WITH A RED FLOWER.

4. *Echium*; sylvestre; hirsutum; maculatum, C. B. P. 254. M. H. 3. 440.

5. *Echium*; majus; & asperius; flore dilute purpureo, Bot. Monsp. M. H. 3. 440. GREAT ROUGH VIPERS BUGLOSS, WITH A FLOWER OF A PALE PURPLE COLOUR.

9. *Echium*; procumbens; annuum; flosculis atro-rubentibus, M. H. Blasf.

7. *Echium*, *Aegyptiacum*; serox; flore albo, *Boerb. Ind. A.* 194. *Lycopsis*, Offic. Chab. 516. *Lycopsis Aegyptiaca*, C. B. Pin. 255. *Park. Theat.* 518. *Raii Hist.* 1. 499. *Lycopsis Dioscoridis quibusdam*, J. B. 3. 584. *Lycopsis Dioscoridis & Rauwolfii*, Hist. Lugd. App. 28. *Echium Orientale longioribus floribus*, Hist. Oxon. 3. 441. *Echium latissimo folio, Lycopsis dictum, flore dilute purpurascens*, Herm. Hort. Lugd. Bat. 225. WALL BUGLOSS.

It grows about Aleppo, and the Root is used in Medicine; which, as *Dioscorides* says, made into a Cataplasm with Oil, is a Cure for Wounds; and, with *Polenta*, cures an Erysipelas; triturated, and used by way of Unction with Oil, it provokes Sweat.

There is a great Controversy among Botanists about the *Lycopsis*; some ascribing that Name to one Plant, others to another. *Matthiolum*, *Lacuna*, *Dalechampsii*, and *Caspar Durantes*, will have it to be the *Cynoglossum*; and we are told by *Matthiolum*, that *Ruellius* and *Fuchs* were of the same Opinion. But *Ruellius*, upon comparing the Descriptions of both Plants, assures us, that the *Lycopsis* cannot be the *Cynoglossum*, as many Herbarists of his Time would have it to be. *Cordius* takes the *Echium vulgare*; *Dodonæus*, (in the French Edition) the *Buglossum majus*; *Loniceus*, the *Buglossum sylvestre*, to be the true *Lycopsis* of *Dioscorides*. For my part, I

am of a different Opinion from all the above-mention'd Authors; and am more inclin'd to think the Plant discover'd by *Rauwolfius* to be the genuine *Lycapsis* of *Dioscorides*, than any of the preceding, or that which is exhibited by *C. Baubine*, under that Name. *Dale*.

8. Echium; majus; & asperius; flore albo, *C. B. P.* 254. *M. H.* 3. 440. GREAT ROUGH VIPERS BUGLOSS, WITH A WHITE FLOWER.

9. Echium; folio amplissimo; Lusitanicum, *T.* 135. PORTUGAL VIPERS BUGLOSS, WITH A LARGE LEAF.

10. Echium; foliis angustis & villosis, *T.* 136. *Anchusa, angustis, villosis, foliis*, *Bocc. Mus.* 2. 84. *T.* 78. VIPERS BUGLOSS, WITH NARROW HAIRY LEAVES.

11. Echium; annuum; folio Lithospermi arvensis; flore caeruleo, parvo, *Micheli. Boerb. Ind. alt. Plant. Vol. 1.* p. 194.

Echium Fuchsi, sive Borrago sylvestris. A Name for the BUGLOSSUM SYLVESTRIS.

Echium, scorpioides, arvense. A Name for the *Heliotropium; minus; angustifolium; arvense; seu hirsutum.*

Echium, scorpioides, palustre. A Name for the *Heliotropium; minus; angustifolium; palustre; seu glabrum.*

ECHOS, ἦχος. A Sound. In *Hippocrates*, this frequently imports what the *Latins* call *Tinnitus Aurium*; and the *English*, a Ringing of the Ears; a Symptom very frequent in acute Distempers.

ECLAMPSIS, ἐκλάμψις, from ἐκλάμπω, to shine, is a Splendor, Brightness, or Effulgence, in 6. *Epid. Sect. 1. Aph. 4.* τῶν νηπίων ἐκλάμψις ἅμα ἡβῇ, ἐστὶν ἐστὶν μετὰ βολὰς ἰσχυροὶ καὶ ἄλλαι. "The Flashes of Light, or Scintillations, [a Symptom of the Epilepsy, and put by *Hippocrates*, as he is generally understood, for the Disease itself] of Children, undergo Mutations, in some Subjects, at the Age of Puberty, and at other Times." The Word ἐκλάμψις is by all refer'd to the Epilepsy; and they understand by it, the Change which Children undergo at the Age of Puberty, when Nature shines forth, and sparkles with fresh Lustre, and displays itself to more Advantage, both with respect to Strength and Understanding. This seems to be the Sense in which the Author of the *Medicus* understood this Sentence, when he says, that "the Epilepsy in Children is cured by Nature, ἐκλάμψασα, shining forth, and exerting itself at the Age of Puberty, when the natural Heat, by drying up the Causes, puts an End to the Disease by a Crisis." But, most probably, the Word ἐκλάμψις was intended to signify those resplendent Flashes and Sparklings which strike the Eyes of epileptic Patients, and are call'd by *Caelius Aurelianus, Tard. Pass. Lib. 1. Cap. 4. Scintillarum Micæ, & circuli ignei*, "Scintillations, and fiery Circles." Thus, *Lib. 7. Epid. Hippocrates*, describing the Case of *Phanix*, affected with epileptical Symptoms, says, that from his Right Eye, τὰ πολλὰ ὥσπερ ἀστέρησιν ἐκλάμπειν ἰδοῦκε, "Coruscations, like Flashes of Lightning, frequently seem'd to dart forth." The Verb ἐκλάμπω is used, *Lib. 1. Epid. Sect. 3.* to express the highest Degree of a Fever, just before and at the Crisis, when it is thoroughly kindled, and shines forth and sparkles in all its Splendor, or exerts itself with its utmost Violence. In the same Sense we read, *Lib. de prifea Med. ὁ ζῴων ὁ πυρεθὲς ἐκλάμπει*, "a most acute Fever shines forth like a Flame, or shews itself in its utmost Fury."

ECLLECTICA MEDICINA, from ἐκλέγω, to elect. Certain Physicians among the Antients, of whom *Archigenes* was one, selected from all the other Sects, what appear'd to them the best, and most rational; hence they were call'd *Ecllectics*, and their Medicine was denominated *Ecllectic Medicine*. See the PREFACE, Page lix. and the Article ARCHIGENES.

ECLLECTOS, ἐκλεκτός, from ἐκλέγω, to elect. A certain Form, in which pectoral Medicines are frequently directed. A Lambitive, Linctus, or Linctus. See LINCTUS.

ECLLEMA is of the same Derivation as *Ecllectos*, and imports the same Thing. See LINCTUS.

ECLYSIS, ἐκλυσίς, from ἐκλύω, to be loosen'd, extremely weaken'd or enfeebled, is a general Faintness and Feebleness of all the Parts of the Body. Thus, 7. *Aph. 8. αὐτὸς ἐκλύσις ἀφωρίαι*, is a Loss of the Voice, attended with an utter Decay of Strength; but ἐκλυσίς κοιλίας, *Coac.* is a Loosening of the Belly by a free and copious Discharge by Stool.

ECMAGMA, ἐκμάγμα, in *Galen's Exegesis*, is explain'd a kneaded or work'd Mass, or the Crocomagma. The Word occurs, *Lib. πρὸς ἀρθεύον*.

ECNEPHIAS, ἐκνεφίας, of ἐκ, from, and νέφος, a Cloud, is a stormy Wind breaking out of a Cloud; ἐκνεφίας ὕβερσις, in *Galen's Exegesis*, is a Shower in Sun-shine; in *Hesychius*, a Shower breaking out of the Clouds; and ἐκνεφίας πυρεθὲς, according to *Galen*, is a Fever, which is at once both humid and igneous, as the Sun breaking out of a Cloud, which has also the Epithet of *Ecnephias*.

ECNYPE, ἐκνύπη, in *Galen's Exegesis*, is expounded by ἐξηλασμένη, explicated, expanded.

ECPEPIESMENOS, ἐκπεπισμένος, from ἐκπύω, to depress, or press outwards. An Epithet for Ulcers with protuberating Lips. *Hippocrates, Lib. de Fract.*

ECPHRACTICA, from ἐκ, and φράω, to obstruct. Deobstruent Medicines.

ECPHRAXIS, ἐκφραξις, of the same Derivation as the preceding Word. An Opening of the Pores.

ECPHYAS, ἐκφύας, from ἐκ, and φύω, to produce. An Appendix, or Excrescence. The *Appendicula Vermiformis* is thus call'd by some Writers.

ECPHYSESIS, ἐκφύσσις, from ἐκ, and φύω, to breathe. A quick Expiration or Expulsion of the Air out of the Lungs.

ECPHYSIS, ἐκφυσίς, of the same Derivation as ECPHYAS. A Process, Apophysis, or Appendix. It is also a Name for the Duodenum, in *Galen, de Usu Part. L. 5. C. 3.*

ECPIESMA, ἐκπίεσμα, from ἐκ, and πίω, to press. A Sort of Fracture of the Cranium, when the Bones are much shatter'd, and, pressing inwardly, affect the Membranes of the Brain.

Ecpiasma also signifies the Mass remaining after the Juices of Vegetables have been press'd out; and, in this Sense, it is the same as *Magma*. It sometimes farther imports the Juice press'd out. In the former Sense *Dioscorides* uses it, *L. 4. C. 160.* speaking of *Balanus Myrsifca*.

ECPIESMOS, ἐκπίεσμος, of the same Derivation as the preceding Word, implies, in general, Expression, or Pressing out. But a Disorder of the Eye is call'd *Ecpiasmus*, which consists in a very great Prominence of the entire Globe, thrust, as it were, almost out of the Orbit, by a great Flux of Humours, or Inflammation.

ECPLEROMA, ἐκπλήρωμα, from πληρώω, to fill, in *Hippocrates's Mochlicus*, and *Lib. πρὸς ἀρθεύον*, are small hard Balls of Leather, or any other Substance, adapted to fill up the Cavities of the Arm-pits, while, by Help of the Heels, placed against the Balls, and repressing the same, the luxated *Os Humeri* is reduced into its Place. The Operation is describ'd at large in the before-mention'd Book *de Artic.*

ECPLEXIS, ἐκπληξις, from ἐκπλήω, to terrify or astonish, in 7. *Aph. 14.* is a Stupor, or Stupefaction, describ'd by *Galen*, in his Comment on that Aphorism, to be when the Patient lies without Motion, with his Eyes open, like one in a Trance, and neither says nor does any thing. "Εκπληξις, in the *Definitiones Medicæ*, is a Transport of Mind (διανοίας ἐκστάσις) proceeding from some sudden Perturbation.

ECPNEUMATOSIS, from ἐκ, and πνεύμα, Breath. The same as ECPNOE.

ECPNOE, ἐκπνοή, from ἐκ, and πνέω, to breathe. Expiration. That Part of Respiration in which the Air is expel'd out of the Lungs.

ECPTOMA, ἐκπτωμα, from ἐκπίπτω, to fall out. A Luxation or Dislocation of a Bone. It also implies a Falling off, speaking of corrupted Parts; the Exclusion of the Secundines after the Birth of a Child; a Falling down of the Womb; and a Descent of the Omentum, or Intestine into the Scrotum.

ECPTOSIS, ἐκπτωσις, the same as ECPTOMA.

ECPYCTICA, from πυκνάζω, to condense. Condensing or incrassating Medicines.

ECPYEMA, or ECPYESIS, ἐκτύημα, or ἐκτύσις, from πύον, Pus, or Matter. A Collection of Matter, Vomica, or suppurated Abscess.

ECREGMA, ἐκρηγμα, from ἐκ, off, and ῥήγνυμι, to break. A Part, Piece, or Segment. "Εκρηγματὰ πρὸς ὀσφύν, *Lib. 7. Epid.* seem to mean Eruptions about the Loins.

ECREXIS, ἐκρηξις, from ῥήγνυμι, to break. A Rupture. It is used by *Hippocrates* to express a Rupture or Laceration of the Womb.

ECRYTHMOS, ἐκρυθμός, from ῥυθμός, Harmony or Metre. Irregular, disorderly. It is apply'd to the Pulse.

ECROE, ἐκροή, from ἐκρεώ, to flow out. An Efflux, or the Course by which any Humour, which requires Purging, is evacuated. Thus ἐκροαί, *Lib. 2. Epid.* are the Ducts, Passages, and Suices, appointed by Nature, for discharging the Humours, and eliminating the morbid Matter. In another Place of the same Book, *Hippocrates* uses the Word ἐκροή in the same Sense.

ECRUSIS, ἐκρυσίς, of the same Derivation as ECROE, in *Hippocrates, Lib. πρὸς ἐπιδείκναι*, is an Efflux of the Semen not mature enough to be call'd an Abortion, as having not receiv'd the Conformation of a Fœtus. "In these Days, [the first and seventh] he says, happen Multitudes of Abortions; but such as these are call'd *Ecrusis*, ἐκρύσις, Effluxes, and not "Abortions." *Aristotle* also, in his History of Animals, *Lib. 7. Cap. 3.* tells us, that Miscarriages, under seven Days, are call'd ἐκρύσις, *Effluxes*; above these, and under forty Days, they are call'd ἐκρήσσει, Abortions.

ECSARCOMA, ἐκσάρκωμα, from σὰρξ, Flesh. A fleshy Excrescence.

ECSTASIS, ἐκστασις, from ἐξίσταμαι, to be out of one's Senses. It imports, in *Hippocrates*, a Loss of the Senses, or Delirium.

ECSTRO-

ECSTROPHIUS, ἐκστρόφις, from ἐκστρέω, to invert or turn out.. An Epithet for any Medicine, which makes the blind or latent Piles appear externally, that proper Applications may be made to them.

ECTASIS, ἑκτασις, from τένω, to extend. An Extension of the Skin, the Reverse to Corrugation or Wrinkling.

ECTEXIS, ἐκτεξίς, from τέλω, to liquefy or consume. A Colliquation of the Solids, or Emaciation.

ECTHELYNSIS, ἐκθελύσις, from ἐκθάλω, to render effeminate. Softness or Emasculation. It is applied to the Skin and Flesh, when lax and soft; or to the Legs, when in the same State; or to Bandages, when not sufficiently tight.

ECTHLIMMA, ἐκθλιμμα, from ἐκθλίβω, to dash or press out or against. In *Hippocrates de Fract.* it implies Exulcerations on the Surface of the Skin, made by Collision or Compression.

ECTHLIPSIS, ἐκθλιψίς, of the same Derivation as **ECTHLIMMA**. Elision or Expression. Ἐκθλιψίς ἐξω σοδορεῖ δριμύτων, in *Coac.* 218. "a vehement Expression of the Eyes "outward," opposed to καλίστης, "Hollowness;" and is accounted, as well as that, a bad Sign. In the same Sentence occurs λαμπρόνους ἐκθλιψίς, "an Expression or Elision of a "Splendor," spoken of the same swelled and prominent Eyes, when they dart forth resplendent Rays and Coruscations of Light hither and thither, like Eyes which are continually rolling. This is also condemned as a bad Symptom. Some Copies for ἐκθλιψίς read ἐκλαμψίς which, tho' it be frequently spoken of resplendent Eyes, has not the Force and Significancy of ἐκθλιψίς in this Place.

ECTHYMA, ἑκθυμα, from ἐκθύω, to break out. A Pustle, or cutaneous Eruption.

ECTILLOTICA, from ἐκτίλλω, to pull out. Medicines which consume callous Tubercles and Corns; or which assist in pulling off superfluous Hairs from any Part. *Blancard.*

ECTOME, ἐκτομή, from ἐκ, out, and τέμνω, to cut. Excision.

ECTOMIAS, ἐκτομίας, or ἐκτομας. A castrated Animal.

ECTOMON, ἐκτομον. Black Hellebore. *Galen.*

ECTRAPELOGASTROS, ἐκτραπελόγαστρος, from ἐκτραπέλος, indecent, filthy, and γάστρος, the Belly. An Epithet for a Person, whose Belly is of an unnatural and enormous Size.

ECTREPSIS, ἐκτρέψις, from ἐκτρέπω, to divert, or turn aside, in *Hippoc. καὶ inf.* is an Inclination or Conversion to one Side, as *Galen* explains it in his *Comment.* This Word ἐκτρέψις is substituted by *Foesius*, and *C. Hoffman*, for ἐκτρέψις, which is read in all the Copies, because, say they, it is plain from the Context in the fore-mentioned Place, that the Thing intended by the Word is a Change in the Posture of the Body for its more convenient Treatment, by an Inclination of it to one Side; which is most fitly expressed by this Term **ECTREPSIS**.

ECTRIMMA, ἐκτριμμα, from ἐκτρίβω, of τρίβω, to rub, is an Attrition or Galling. In *Hippocrates, Lib. de Fract.* ἐκτριμμάς are Exulcerations of the Skin about the Os Sacrum, contracted by long lying in one Posture under a Fracture of the Thigh.

ECTRIPSIS, ἐκτριψίς, of the same Original as the preceding, is expounded by *Galen*, in his *Exegesis*, by τὴν ἐν τῷ σπλάγχνῳ ἵσαν παραλλάξιν, "a Permutation, [a Change of "State] with respect to the Viscera." But *Foesius* thinks we should read ἐκτρέψις, and, instead of *Galen's* Exposition above-quoted, ἐν τῷ πλάγιᾳ παραλλάξιν, "a Permutation of Sides, "or shifting from one Side to another." See **ECTREPSIS**.

ECTROPE, ἐκτροπή, from ἐκτρέπω, to divert, pervert, or invert, is any Duēt, Passage, or Drain, by which the Humours are diverted and drawn off. Thus, *Lib. 2. Epid. Sect. 1. ἀποστασις*, &c. "an Apostasis is made by the Veins, Bones, "Nerves, or Skin, ἢ ἐκτροπῶν ἐντέρων, or by other Ways "or Passages." See **ECROE**. *Ectrope*, in *Paulus, Lib. 3. Cap. 22.* is an Affection of the lower Eyelid, the same as **ECTROPIUM**, which see.

ECTROPIUM.

When the Eyelids are so inverted or retracted, that their interior red Skin becomes prominent, and the Eye cannot be sufficiently covered by them, the Disorder is, by the *Greeks*, called *Ectropium*, from the Word ἐκτρέπω, to invert. Hence it may properly enough be called an Inversion, or an Eversion, of the Eyelids. When this Misfortune happens in the superior Eyelid, in consequence of its Resemblance to a Hare's Eyes, it is by the *Greeks* called *Lagophthalmus*, or Hare's Eye. But some, justly enough, distinguish between the *Ectropium* and the *Lagophthalmus*, the latter of which is, when the superior Eyelid is not inverted, but only, like a Hare's Eye, retracted by any Cause, in such a manner, that it cannot sufficiently cover the Eye. The like Misfortune is also frequently observed in the inferior Eyelid, without any Degree of Inversion, though few have mentioned this Symptom. Hence it may justly be esteemed a Species of *Ectropium*. Sometimes this Disorder appears single, and by itself, whilst at other times 'tis complicated with Inflammations of the Eyes, Sarcomas, that Species of Disorder called *Encanthis*, or an encysted Tumor. When the *Ectropium* or

Lagophthalmus appear single, and by themselves, they generally arise either from bad Cicatrices form'd after fortuitous Wounds, the Extirpation of Tubercles, an Exulceration or Burning of the Eyelids, or from such a preternatural Increase of the internal Flesh, after severe and frequent Inflammations, as is sufficient to invert the Eyelid; various melancholy Instances of which I myself, says *Heister*, have seen. These Disorders may also be produced by too strong astringent ophthalmic Medicines, which powerfully constrict and condense the Skin.

The Cure of these Disorders is often pretty difficult, and consists principally in a sufficient Reduction of the constricted or retracted Skin of the Eyelid. If, therefore, the Disease is not inveterate, the Cure may be attempted by moistening and emollient Medicines. The Cicatrix and adjacent Skin are also to be softened and enlarged by proper Measures. For this Reason it is highly expedient, when this Disorder begins, carefully to foment the Eyelids and Cicatrices, either with the Steam of warm Milk, or Water, or with the Oil of sweet Almonds, or of Olives, Mucilage of Quince-seeds, Hares Suet, Ointment of Marshmallows, or any other emollient Ointment or Plaister. At the same time, if the superior Eyelid is affected, it is often to be drawn downwards; whereas, if the inferior is in the like Condition, it is to be drawn upwards. It is also proper, especially in the Night-time, to apply Plaisters and Compresses, drawing the Eyelids together; which Practice is to be carefully continued, till they are reduced to their natural State and Condition. But, if these Measures should prove ineffectual, we are to have recourse to manual Operation, which sometimes produces happy Effects, tho', at other times, the Disorder is absolutely incurable, in consequence of the violent Contraction of the Skin.

The most commodious Method of performing the Operation is, at a small Distance from the Eyelashes, to make an Incision in Form of a Crescent, whose Horns, in the superior Eyelid, are to be made downwards, and in the inferior upwards; as in *Tab. 36. Fig. 26. Lett. A A*: So that, by means of the Incision, the Skin may be sufficiently lengthened. When the Eyelid wants little of its natural Largeness, one Incision is sometimes sufficient for a due Relaxation of the Skin, as in *Fig. 26*. But, when it deviates very much from its due Dimensions, two or three of these Incisions must be made parallel, and at a very small Distance from each other. Then, stretching the Skin sufficiently, the gaping Wounds are to be filled with small Portions of dry Lint, which must be secured with a proper Compress and Bandage. At the subsequent Dressings, the Lint must be immersed in some proper vulnerary Ointment. By this means a fresh Coalition of the Skin is not only prevented, but also new Flesh is raised from the Bottom of the Wound, which gradually fills the Chasm of the Skin, and consequently extends and enlarges it. That the Cure may be the more speedily performed, 'tis expedient, by narrow Slips of some proper Plaister, to draw the superior Eyelid downwards, and the inferior upwards. These Measures must be persisted in, till the Wounds are filled with new Flesh, and the Eyelid, by that means, sufficiently enlarged.

If an Inversion, especially of the inferior Eyelid, should happen, in consequence of a violent Inflammation producing fungous and luxuriant Flesh internally, the most proper Method of Cure is, by well-chosen Medicines, to allay the Inflammation, and then cautiously to consume and extirpate the luxuriant Flesh by the *Lapis Infernalis*: But, in this Attempt, the Eye is to be carefully defended; for, when the Causes of the Disorder are removed, it must, of course, cease, and the Eyelid be restored to its natural State. When this Misfortune arises from an *Encanthis*, an *Hyperfarcosis*, a *Sarcoma*, or Excrecence of Flesh, as in *Fig. 27. 28. and 29.* these are to be removed in the manner directed under their respective Articles.

When the Eyelids are immensely distorted and contracted, or when the Disorder has remained from the Patient's Birth, scarce any Measures of Relief can prove effectual. Sometimes this Misfortune is produced without any Cicatrix in the inferior Eyelid, especially in old Persons, by a Debility or relaxed State of the orbicular Muscle. In this Case, the Operation is of no manner of Use, and greater Benefit is to be expected from Liquors, Spirits, Balsams, and Ointments, of a corroborating and strengthening Nature. But of the longer standing the Disorder is, the more it is Proof, both against the Operation, and the Influence of Medicines; for the Eyelids, in this Case, gradually habituate themselves to Distortion, and so lose their natural Figure, that they can never be restored to their former State and Condition. *Reckius*, in the Year 1733. published a learned Dissertation on the *Ectropium*, to which the Curious may have recourse for their Satisfaction. *Heister. Chirurg.*

Galen, in the *Definit. Med.* makes *Ectropium* an Eversion of the Eyelids in general. But, according to *Paulus Aegineta*, *L. 6. C. 12.* the *Ectropium* is peculiar to the inferior Eyelid; whereas the same Disorder in the superior he calls *Lagophthalmus*.

ECTROSIS, ἐκτροσις, from ἐκτρίβω, to miscarry. A Miscarriage.

ECTROTICA,

ECTROTICA, of the same Derivation as the preceding Word. Medicines which cause Abortion, or a Miscarriage.

ECTYLOTICA. A Word coin'd by *Horstius*, from *τύλος*, a Callus, to express Remedies appropriated to consume Callosities.

ECZEMA, from *ζέω*, to boil, or be very hot. A Pustule which is hot and painful. *Eczema* is the same, and is esteemed the better Reading by *Fuchsius*, in his Notes on *Nicolaus Myrpesus*, Sect. 10. C. 64.

EDELPHUS, in the Jargon of *Paracelsus*, imports a Person who makes Prognostics from the Nature of the Elements.

EDENTULUS. Without Teeth.

EDERA QUINQUEFOLIA. A Name for the *Vitis*; *quinquefolia*, *Canadensis scandens*.

EDERA TRIFOLIA. A Name for the *Toxicodendron*; *triphyllum*; *glabrum*.

EDES, EDETZ, *Aurum Elimpus*, that is, as *Castellus* expounds it, Amber. *Rulandus*.

EDESSENUM *Pelarium*. The Name of a Collyrium in *Actius*, *Tetr.* 2. *Serm.* 3. *Cap.* 101. reckoned among the *Collyria Monohemera*, or such as cure in one Day, [see *MONOHEMEROS*] and called, among others, *Pelarium*, from its seculent Composition. [See *PELARIUM*]. It is supposed to have its Epithet *Edeffenum* from the City *Edeffa*, where it was probably invented, or much used. It is prepar'd in the following manner:

Take of Gum Tragacanth, Gum Arabic, Acacia, Amylum, Sarcocolla, each two Drams; Opium, four Drams; Cerufs, eight Drams; Cadmia, sixteen Drams: Make them into a Composition with Water.

EDIC, EDICH, or EDIR. Iron. *Rulandus*.

EDULCORATIO. Sweetening with Sugar or Horey. But, in Chymistry, it imports the rendering Preparations sweet, that is, mild, by depriving them of their Acrimony. This is generally done by repeated Affusions of Water.

EFFERVESCENTIA. Effervescence strictly signifies a slight Degree of Ebullition in Liquors exposed to a due Degree of Heat. But it is applied by the Chymists to that Ebullition, which is excited when two Substances of different Natures, an Alkali, for Example, and an Acid, are mixed together. If the Effervescence produces a Heat in the Substances so mixed, it is called a hot Effervescence; but, if no Heat is excited, it is a cold Effervescence. It is, by former Writers in Chymistry, confounded with Fermentation. But *Boerhaave* has very judiciously limited the Signification of Fermentation to that intestine Motion of Vegetable Juices, which produces a vinous Liquor, or Vinegar; and calls all other Ebullitions, produced by the Mixture of Bodies, Effervescences.

EFFIDES. Cerufs. *Rulandus*.

EFFILA. Freckles. *Rulandus*.

EFFLORATIO. The same as EXANTHEMA, which see.

EFFLORESCENTIA. The same as EXANTHEMA.

EFFLUVIA. Minute Particles which exhale from Bodies. Thus the Particles perpetually flowing from odoriferous Bodies, and which affect the Organs subservient to the Smell, are call'd *Effluvia*. Thus, also, the minute Particles, which are conveyed through the Skin in Transpiration, are called *Effluvia*. By these Effluvia from morbid Bodies, Contagion is propagated.

EFFRACTURA. A Species of Fracture of the *Cranium*, when the Bone is broken, and much depressed, by a violent Blow. *Paré*.

EGELO. A Name for the *Cytisus*; *Alpinus*; *angustifolius*; *flore racemosa*, *pendulo*, *longiori*.

EGESTIO. Excretion, generally used relative to Evacuations by Stool.

EGOITAS. A Term coin'd by *Helmont*, to express the Light of the Understanding, by which we contemplate, or reflect internally.

EJACULANTIA, or EJACULATORIA VASA, are the Vessels which receive the seminal Matter elaborated in the Testicles, and convey it to the Penis. These are the *Epididymis*, the *Vasa Deferentia*, the *Vesiculae Seminales*, and *Prostatæ*.

EIDECHTHES, *ἰδὲχθης*, from *ἴδω*, Shape or Aspect, and *χθός*, Hatred or Enmity, is apply'd to whatever has an odious or deformed Aspect, as it is expounded by *Hesychius*. In *Hippocrates*, *Lib.* 2. *περὶ γυναικ.* it is an Epithet for a putrefy'd Egg, and for Things of an abominable Smell, in Opposition to *ευαίδια*, "Things of a grateful Odour."

EIDOS, *ἴδω*, a Form, a Kind, is used, by *Hippocrates*, in various Senses. *Galen*, 2 *Com. Lib. de Nat. Hum.* expounds *τὰ ἴδια*, by *τὰς τῶ σώματος φύσεις*, "the Natures of Body," consisting of a Mixture of the four Qualities. In the Additions to the same Book, we are taught, "that a Physician ought to hold himself provided for all Diseases, Natures [*ἴδια*], Seasons, and Ages." He uses the Word in the same Sense, for

Nature, Form, or Constitution, in several other Places of that Treatise; and, 2 *Epid. Sect.* 2. expresses the same by *ἴδια*. In *Lib. de Salubri Vita*. *τὰ ἴδια* are explained, in *Galen*, by *αἱ τῆς σώματος ἕξεις καὶ ἴδιαι*, "the Habits and Forms of Body." Thus again, *Lib.* 2. *Prorrh.* *τὰ ἴδια τῶν ἀνθρώπων*, are the particular Nature, Habit, or Constitution of every Person, tho' even acquir'd by Custom, and Length of Time; which sort of Habit is called by *Galen* *ἕξις*, (*Schisis*). *Eidos* also signifies the same as *Res*, "Thing"; or Ingredients in a Mixture, as (*Lib.* 2. *περὶ γυναικ.*) *ὅζες σὺν τοῖς ἴδιοις ἢ ὄινῳ*, (mix) "Vinegar, or Wine with these Things;" that is, with Juniper-berries, Sage, and other Ingredients. *Galen*, *Com.* 1. & 2. in *Lib. καὶ ἰσθρ.* explains *ἴδια*, as signifying "Kinds." And by *τὰ ἴδια τῶν πυρεσῶν*, 3 *Epid.* we are to understand the different Kinds or Species of Fevers.

EJECTIO, in Medicine, implies much the same as EXCRETIO.

EILAMIDES, *ἐλαμίδες*, from *ἐλῖω*, to involve. The Meninges, or Membranes of the Brain, the *Pia Mater*, and *DURA MATER*.

EILEMA, *ἐλάμα*, from *ἐλῖω*, to form Convolutions. In *Hippocrates*, *Lib. de Flatibus*, this Word imports painful Circumvolutions of the Intestines, occasioned by Flatulences. It also, sometimes, imports an *Involucrum*, or Covering.

EILEON, *ἐλεόν*, from *ἐλῖω*, to wind. A Name of the Intestine, call'd the *Ileum*, according to *Gorræus*; but I don't recollect, that this Word occurs in any Greek Author.

EILEOS, *ἐλεος*, from *ἐλῖω*, to form Convolutions. The Iliac Passion. See *ILIACA PASSIO*.

EILETHERES, *ἐληθερες*, from *ἥλιος*, the Sun, and *θερῶ*, to heat. Heated by the Sun. *Hippocrates*, *de Morbis*, *Lib.* 2.

EIRION, *ἐρίον*, Wool. See *Lana*.

EIROS, *ἐίρος*. This was explained by some, according to *Erotian*, the Circumscription of a scirrhus Tumor of the Spleen; and, by others, a bad Affection of the whole Body. But *Erotian* disapproves of both these Explications, and says it imports a Species of Fever in *Hippocrates*: The Word, however, does not occur in the Works of *Hippocrates*, now extant.

EISBOLE, *ἐισβολή*, from *εἰς*, into, and *βάλλω*, to cast. It signifies, strictly, an Injection: But is used to express the Access or Attack of a Distemper, or of a particular Paroxysm. It also, sometimes, implies an Irruption.

EISPNOE, *εἰσπνοή*, from *εἰς*, in, and *πνέω*, to breathe. Inspiration.

ELA-CALLI. The Name of a Shrub which grows in sandy Soils, in some Parts of the *East-Indies*, about twice as high as a Man. The Bark of its Root triturated, and drank in Water in which Rice has been boil'd or wash'd, is recommended against the Dropsy, and is said to be a very mild Medicine; which Mr. Ray justly wonders at, since the Plant is full of an acrid and caustic Milk; which, however, when exhibited with Butter in which it has been boil'd, proves a mild and gentle Purgative. The Leaves, heated at the Fire, provoke Urine; and the Steam or Vapour of a Decoction of them contributes to alleviate and remove Pains in any Part of the Body: The Juice, express'd from the Leaves either warm'd or a little toasted, cures Pains of the Ears, if put into them. It also removes Specks of the Eyes, if dropt into them; and contributes to the Cure of Swellings in the Pudenda, if the Body is wash'd with it. *Raii Hist. Plant.*

EL/EAGNUS CORDI. A Name for the GALE; *Frutex Odoratus Septentrionalium*, which see. But, according to *Miller*, the *Elæagnus* is a Name of the *Oleaster*, Wild Olive.

ELÆOMELI, *ἐλαίμελι*, from *ἐλαίον*, Oil, and *μέλι*, Honey.

In *Palmyra*, a Country of Syria, the *Elæomeli*, which is an Oil thicker than Honey, and of a sweet Taste, flows from the Trunk of a Tree. Two Cyathi of this Oil, drank with one Hemina of Water, evacuate crude and bilious Humours by Stool. But the Patients who use this Medicine, are seiz'd with a Torpor, and Privation of Strength; there is, however, no Necessity for being terrified at these Symptoms. In this Situation, they are to be carefully rous'd, and not allow'd to fall into a deep or profound Sleep.

This Oil is also prepar'd of the Fat of the oleaginous Buds of the Tree; and, of this Kind, that is best which is old, thick, pinguious, and not turbid. It is of a heating Nature, and, if apply'd by way of Ointment to the Eyes, contributes to the Cure of Dimness of Sight. It also contributes to the Cure of the Leprosy, and Pains of the Nerves. *Dioscor.* L. 1. C. 37.

Hermolaus Barbarus, in his Commentaries on the first Book of *Dioscorides*, thinks, that the *ἐλαίμελι* is the same with the Manna, mentioned in Scripture; and only differs from it in this, that the *ἐλαίμελι* is used in Medicine; whereas the Manna might be eaten for common Food.

ELÆON, *ἐλαίον*, Oil. See *OLEUM*.

ELÆOSACCHARUM, from *ἐλαίον*, Oil, and *Σάκχαρ*, Sugar. A Term in Pharmacy, importing, a Mixture of distill'd Oils with Sugar.

After

After the Chemists had shewn Physicians, that the Spirit residing in essential Oils contained, in a small Volume, all the particular Virtues of the Plant; Physicians prudently reflected, that they had hence an excellent Instrument in their Art; but that the unctuous Tenacity of the Oil still prevented its being used with Safety; because these Oils being extremely sharp, and, by their Tenacity, remaining fixed to one Part, occasioned Inflammations. Hence they began to think of a Method of rendering these Oils miscible with Water, and uniformly conveying their entire Virtues to the Places intended; and this they found might be effected by the Means of Sugar.

Grind, therefore, an Ounce of dry Loaf-sugar to an impalpable Powder, in a Glass Mortar, with a Glass Pestle; and, by degrees, add thereto a Dram of any essential Oil, or half a Dram, if the Oil be very tenacious; and continue rubbing them together, till all the Oil is perfectly mix'd, and drank into the Sugar. The Oil, in this Operation, usually diffuses a Fragrancy to a great Distance; the Operation, therefore, should be perform'd quick, and the Mortar be covered with a Cloth, surrounding the Pestle. If a little fresh White of an Egg be added in the Grinding, and mix'd in with the Sugar and Oil, the Oil thus becomes more easily miscible; but the Mixture will not thus keep so long, without turning rancid. And thus Sugar, which is a very pure Soap, or a true essential oily Salt, divides the glutinous Tenacity of the Oil, interposes itself betwixt the Principles thereof, unites them closely with itself, and makes an extemporaneous Soap; which may thus be commodiously diluted with Water, for medicinal Uses: For though this Mixture is not so perfect as in an actual Soap, or true essential Salt, yet it suffices for Use; nor is there Reason to apprehend any Inconvenience from the Sugar, in this Preparation; for Sugar is unjustly said to be unwholesome, as there are no Proofs extant thereof. On the contrary, it is a wonderful Salt, that perfectly mixes with Water, and ferments therewith into Wine: And yet, what is exceedingly surprizing, it appears oleaginous, and perfectly inflammable in the Fire; whence it is known to consist of Oil and Salt.

If these Elæosacchara be well prepared, dried, and put into clean Glasses, exactly closed with Glass Stoppers, they may long be preserved perfect; and, in this manner, very effectual Medicines might be commodiously carried from Place to Place; and, upon occasion, be directly used on a Journey, by adding a little of the Elæosaccharum to a Glass of Wine. An Elæosaccharum might, also, be made, by grinding an essential Oil with a fix'd alkaline Salt; by which means, also, a kind of Soap is obtained: But Alcalis thus destroy the grateful Properties of the essential Oils, and change their natural Tastes and Odours. Such Elæosacchara, also, would presently resolve in the Air, and thence be easily spoil'd. By the former Method, therefore, Physicians may prepare an excellent Medicine, rich in Virtues: For if the Elæosaccharum of Mint be dissolv'd in distil'd Mint-water, then strengthened with the Addition of the Spirit of Mint, and the Mixture sweetened with the Syrup of the same Plant, the whole Virtues of Mint may thus be obtained.

R E M A R K S.

Hence appears the saponaceous Property of Sugar, which fits it for breaking and dividing the Bodies of Oils, as if they were in a manner fermented with Sugar; and, at the same time, it does not diminish, but rather improves, the particular Virtue of these Oils: Whence the Antients, who were unacquainted with Sugar, mixed Oils with Honey, for the like Purposes. And hence we learn the Virtue of Sugar in the Body; where, being diluted with the natural Juices, it affords a saponaceous Lixivium, which, by the Force of Circulation, dissolves unctuous and viscous Substances: Whence it does not generate, but dissolves Phlegm; nor does it increase the Bile, nor turn into it, but opens, thins, and divides it; though, by dissolving the Oils too much, it may occasion Leanness; as, by attenuating too much, it produces a Weakness and Relaxation of the Parts, and is, therefore, often found prejudicial in the Rickets, and the Scurvy. In the mean time, this Production of Nature and Art is, as we above observed, very singular and extraordinary; for it entirely dissolves in Water, melts in Fire, shoots like a perfect Salt into perfect Crystals, is manifestly fix'd, and, if distil'd in close Vessels, affords an acid penetrating Spirit: In an open Fire it becomes wholly inflammable; it is fermentable, and thus convertible into strong Wine, which will afford Alcohol; and, lastly, it may be converted into sharp Vinegar. If it be call'd a Salt, we may ask how it comes to be inflammable in the Fire? if an Oil, how it comes to crystallize? if an essential Salt, how it comes to ferment? So that, perhaps, in all Nature there is no other Body found, in which all these Properties conspire. *Boerhaave's Chemistry.*

ELAMBICATIO. A Method of analysing mineral Waters, to investigate their Virtues. *Castellus from Fallopius.*

VOL. II.

ELANULA. Alum, as hard as Iron.

ELAPHICON. A Name for the ELAPHOBOSCUM, in *Oribasius, Medic. Lib. 1.*

ELAPHOBOSCUM, from *ἐλαφός*, a Stag, and *βόσκη*, to feed. A Name for the *Sisyrinchium Germanorum*.

ELAPHOS, *ἐλαφός*. The Stag. See CERVUS.

ELAPHOSCORODON. The same as OPHIOSCORODON.

ELAPS, *ἐλαψ*. The Name of a Serpent, mentioned by *Actius, Tetrab. 4. Serm. 1. Cap. 32.* the Bite of which induces something like the Iliac Passion. It is cur'd, he says, by the usual Remedies for these venomous Bites, and principally by those which ease Gripings, and provoke Urine.

ELAQUIR. Red Vitriol. *Ritlandus.*

ELAS MARIS. Burnt Lead. *Johnson.*

ELASIS, *ἐλασις*, from *ἐλαύνω*, to impel, or repel. See ELASTICITAS.

ELASMA, *ἐλασμα*, from *ἐλαύνω*, to impel. A Lamina, or Plate, of any Kind. But it is used to express a Clyster-pipe.

ELASTICITAS. Elasticity. A Word much in Use among the modern Philosophers, coin'd from *ἐλαύνω*, to impel, or repel. It imports that Power or Property in natural Bodies, by which they restore themselves spontaneously to the Figure and Dimensions, which they had lost by the Action of some other Body applied to them. Thus a Spring, or a Bow, when bent, restore themselves, by their Elasticity, to the Form they obtain'd before any external Force was applied to them. And thus the Arteries, after being distended by the Impulse of the Blood, contract, and restore themselves, by their Elasticity, to the same Form and Dimensions they had before thus distended. Whoever is more inclined to inquire into the Causes of Elasticity, than to cure Diseases, may find a great deal upon this Subject, in the Writings of the *Cartesian* and *Newtonian* Philosophers; in which, however, they will find very little Satisfaction, without a sufficient Share of philosophical Enthusiasm. See STRICTURA, and LAXITAS.

ELATE, *ἐλάτη*. The Fir. See APIES.

ELATER. The same as ELASTICITAS.

ELATERION, *ἐλατήριο*, from *ἐλαύνω*, to exagitate. This imports, in general, any purging Medicine; and particularly, those which operate with Violence. Hence the Name was transferred to the wild Cucumber, and the Preparations thereof. In the Writings of *Hippocrates*, Elaterium is frequently mention'd as an external Application of a digestive and detergent Nature. Its Internal Use is, however, in all Probability, recommended, when the *τὸ ἐλατήριο*, or agitating Medicines, are mention'd. In the fifth Section of the sixth Book of his Epidemics, for purging Children, he prescribes the Milk of a Goat, or Woman, who hath eaten Elaterium or wild Cucumber. Where the Word Elaterium seems to imply white Hellebore, which the Goats eat.

The Characters of the Elaterium, or wild Cucumber, are, The Leaves and Branches are without Tendrils; the Fruit prickly, and bursts, and flies abroad with a great elastic Force; the Juice is violent in Operation. *Boerhaave Ind. alt. Part. 2. p. 77.*

Elaterium Officinarium; Cucumis; sylvestris; aspinus dictus. *Boerb. Ind. A. 2. 77.* Cucumis agrestis, Offic. Cucumis agrestis, sive aspinus. Park. Theat. 161. Cucumis sylvestris, sive aspinus. J. B. 2. 248. Chab. 135. Rall. Hist. 1. 647. Cucumis aspinus. Ger. 766. Emac. 912. Cucumis sylvestris aspinus dictus. C. B. Pin. 314. Tourn. Inst. 104. Elem. Bot. 87. Hist. Oxon. 2. 33. Cucumis Elaterium Rivini. Rupp. Flor. Jen. 41. *Guarava-oba*, sive Cucumis aspinus. Pil. 264. WILD CUCUMBER.

This Plant has several rough Stalks, which creep upon the Ground, whose Leaves are set on long hairy Foot-stalks; they are pretty large, greenish above, and hoary underneath, somewhat triangular, and indented about the Edges, rough and hairy. The Flowers grow on the Rudiment of the Fruit, being much smaller than the Flowers of the Garden Cucumbers, of one single pale-yellow Leaf, cut into five Parts. The Fruit is as big as a large Olive, cover'd all over with harmless Prickles, and full of a pulpy Juice, containing several brown oval Seeds, which, when ripe, upon handling, or gently pressing, will squirt forth at the End with great Violence. It is sown in Gardens, flowering in July, and the Fruit is ripe in September.

This is a very strong purging Plant, the Fæcula of whose express'd Juice is the Elaterium of the Shops, and is one of the strongest Cathartics we have, carrying off serous watery Humours, both upwards and downwards, with great Violence; whereby it is of singular Use in the Dropsy, when the Bowels are not decay'd. It likewise forcibly brings down the Catamenia, and even destroys the Fætus in the Womb, and is therefore only fit to be administered by a skillful Hand. *Milner's Bot. Off. Dioscorides and Actius.*

As for the Antiquity of Elaterium, *Theophrastus* informs us, that he saw some of it two hundred Years old, in the Custody of a Physician of indisputable Veracity; and that its Virtues were, as yet, entire: So that the Elaterium must have been

been known long before the Days of *Hippocrates*, since *Theophrastus Eresius* flourished very soon after him.

Dioscorides, in the 155th Chapter of his 4th Book, gives us the following Directions for preparing Elaterium: "Chuse such Cucumbers as, when touch'd, burst, as it were, and discharge their contain'd Juices. These are to be kept for a Night, and, next Day, put into a wide Sieve, laid over the Mouth of a Vessel. Then, with a Knife, whose Edge is turned upwards, divide the Cucumbers, one by one, and express the Juice, through the Sieve, into the Vessel plac'd under it; then squeeze the fleshy Part of the Cucumbers, adhering to the Sieve, that it may be also pass'd through it. Pour this express'd Juice into another Bowl, or Basin. The Parings, or Shreds, are to be laid in the Sieve, wash'd with pure Water, express'd, and thrown away. The Juice, receiv'd into the Basin, is to be agitated and mix'd; after which it is to be cover'd with Linen Cloth, and expos'd to the Sun. But, when it coagulates, the Water floating above it, together with the frothy Concretions on its Surface, are to be pour'd off; and this is to be done so long as any Water appears. After this Water, if any should remain, is diligently pour'd off, Drop by Drop, the Sediment itself is to be triturated in a Mortar, and reduced to small Cakes. Some, in order more expeditiously to express a large Quantity of Juice from the Elaterium, sift Ashes upon the Ground; then, making a small Hollow in the Middle, they cover it with a threefold Linen Cloth, into which they pour the Elaterium, with its Moisture; and, when this latter is drain'd off, they make up the former, when dry, into Cakes, in the manner already directed. Others, in order to wash this Mass, use Sea-water, mix'd with fresh Water; while others, in the last Washing, use Mulsum. That Elaterium is counted best, which is white, moderately moist, smooth, bitter to the Taste, and easily kindled upon the Application of a lighted Candle to it. But that which is porraceous, rough, of a turbid Appearance, heavy, and full of recrementitious Parts, is bad. Some, in order to procure a due Degree of Smoothness and Whiteness to the Elaterium, mix Amylum with it. It retains its purgative Quality for ten Years after it is made. The largest Dose is an Obolus [about twelve Grains], and the smallest a Semi-obolus [or six Grains], and to Children two Areola [or four Grains]; for larger Doses of it are dangerous. This Medicine evacuates Bile and Phlegm, both by Vomit and Stool. Those who labour under a Difficulty of Breathing, receive great Advantages from the Evacuations made by this Medicine. If the Intention is to evacuate by Stool, adding a double Quantity of Salt, and as much Mustard as is sufficient to colour the Mass, form Pills of the Bulk of a bitter Vetch; after the Exhibition of which, let the Patient drink a Glass of warm Water. But if the Intention is to evacuate by Vomit, the Elaterium is to be diluted in Water, in which a Feather is to be immers'd, and the Parts lying under the Tongue are carefully to be anointed with it: But if the Patient is difficult to vomit, the Elaterium may be dissolv'd in Oil, or the Ointment of Orris; but he is not to be suffered to sleep. If too strong and violent Evacuations by Stool should be produced by this Medicine, we must frequently exhibit to the Patient Wine mix'd with Oil; for the Patients are free from this Symptom, when Vomiting is brought on. When, on the contrary, too frequent Vomiting is excited by the Elaterium, cold Water, Polenta [*αλφισσος*], and Oxyerate, Apples, and Substances capable of strengthening the Stomach, are to be exhibited. Elaterium, us'd by way of Pessary, provokes the Menstrues, and kills the Fœtus. When injected into the Nostrils, with Milk, it removes the Epilepsy, and long-continued Pains of the Head. In Quinsys it is successfully us'd, as an Ointment, in Conjunction with old Oil, Honey, or the Gall of a Bull. A Dram of the Root of Garden Cucumber, reduced to Powder, and exhibited in Hydromel, excites Vomiting. But if the Patient, after Supper, desires to vomit gently, and without Uneasiness, two Oboli [or twenty-four Grains] will prove a sufficient Dose."

Elaterium is one of the most violent and drastic Hydragogues of any in the Materia Medica. It is a Species of wild Cucumber, differing principally from those of the Garden Kind by the Smallness of its Fruit, being no larger than a *Spanish Olive*, which it resembles pretty much in Figure. When it is ripe, it falls from its Stalk, upon the gentlest Touch, or the slightest Gale of Wind; and throws its Seeds, with Violence, a considerable Way round it. It is called Elaterium; but this Name is now principally given to an Extract which the Antients prepared from it.

In order to render the Preparations of this Plant more mild and gentle, Mr. *Boulduc* has been at incredible Pains; and, in the Course of his Experiments, found, that this Plant has scarcely any sulphureous Principles; because Brandy and Spirit of Wine hardly act upon it at all, and because the Principles

they draw from it are only Salts, dissolv'd and carried off, not by the Sulphur of these Menstruums, but by the Phlegm they always retain. The wild Cucumber, then, contains only saline Parts, in which its Virtues consist: And, as it is a strong Purgative, we may, from this Circumstance conclude, that Salts are as properly Purgatives as Sulphurs, though this Quality is not so generally ascrib'd to the former as to the latter.

Mr. *Boulduc* was convinced, that Juices obtained by Expression have less Virtue than Decoctions and Infusions. In the former of these Processes, we leave, as useless, a Mass, which is not, in reality, so; and which contains Principles of the Plant, the Union of which with the others would be necessary, either to correct or augment their Qualities. By the latter of these Processes, that is, Decoction or Infusion, every Principle is equally drawn out; and even though the compound Substance should be peccant with respect to Strength and Acrimony, the Principles united and mix'd, drawn from it, are such as were most easily disengag'd, and, at the same time, most mild and gentle.

After trying an incredible Number of Experiments, sometimes on all, and sometimes only on some of the Parts of this Plant, Mr. *Boulduc*, at last, fell upon a Method of preparing, from the dry Root, a simple Decoction, or Extract, preferable to what can be obtained from all the other Parts, and which he has found, from Experience, to be a very mild, and, at the same time, a very powerful Hydragogue. The Dose is from twenty-four to thirty Grains, in Conjunction with a few Grains of Mechoacan or Rhubarb, and Salt of Wormwood, incorporated with Extract of Juniper.

As the Cucumbers, produced by this Plant, do not ripen all at once, they must be gathered immediately before the precise Moment of their perfect Maturity, because soon after they would fall, and spread their Seeds, which would render them useless. Mr. *Boulduc* thinks, that the Method of preparing the Elaterium us'd among the Antients was highly difficult; and positively affirms, that it was lost a long time ago. This Art he has attempted to recover, and, by preserving every thing that was essential and important in it, has found the means of preparing an Elaterium, not only as good, but apparently better than that of the Antients; since six Grains of it purge very well, and without Violence. It must be exhibited in Conjunction with some Powder of Rhubarb, and some alkaline Salt.

But the most simple Elaterium is that which he made, when he imagin'd, that most of the good vegetable Remedies come, as it were, prepar'd from the Hands of Nature. Accordingly he dried the wild Cucumber very well, and reduc'd it, together with its Seeds, to a Powder, which he found a very good Hydragogue. *Hist. de l'Acad. Royale, An. 1719. p. 54.*

The Root, and inspissated Juice, of the *Cucumis sylvestris* or *aspinus*, are the principal, if not the only Parts of the Plant us'd in Medicine. This Juice, prepared in a certain Manner, is call'd Elaterium, of which there are two Kinds mentioned by the Antients; that, for Instance, of *Theophrastus*, which is green, and, in all Probability, made of the inner Substance of the Pulp of the Fruit; and that of *Dioscorides*, made only of the thin and waterish Parts, which is white, and which, for that Reason, is accounted best by him and *Mesue*. The Green is not half so strong in promoting Evacuations, either by Vomit, or Stool, as the White, of which one Grain, dissolved in any Liquor, operates very powerfully on People of weak Constitutions. This Medicine powerfully eliminates aqueous and viscid Humours collected about the Joints. The Juice of the Root produces the same Effect, and is, therefore, properly used in Clysters, or laid as a Plaster, or Poultice, to the Parts affected, in sciatic Pains. This Juice, also, when boil'd with Wormwood, in Water and Oil, cures inveterate Megrims, if the Temples are frequently bath'd with it, and some of the Leaves and Roots beaten together, and applied to them as a Poultice. When this Juice of the Root is injected into the Nostrils with Milk, it is said to produce the same Effect. When mix'd with Goats Dung, and applied, by way of Plaster, to any hard Tumors or Swellings, it is said powerfully to resolve them. According to *Mesue*, the Juice, not only of the Fruit, but also of the Root, or a Decoction of either, if drank, affords Relief in the Dropsy, the Jaundice, and all Obstructions of the Liver and Spleen. *Dioscorides*, for the Cure of a Dropsy, orders half a Pound of the Roots to be bruise'd, and put into three quarters of a Pint of strong Wine, three Ounces of which are to be exhibited for three or four Days, till the Dropsy is remov'd, which it carries off without creating any Uneasiness to the Stomach. According to *Castor Durantes*, a few Grains of Elaterium, mix'd with Conserve of Roses, will produce the same Effect. The Powder of the Root, mix'd with Honey, removes the Marks of Sugillation. The Root boil'd, or steep'd, in Vinegar, cures the Morpew, and removes Specks and Freckles. The Powder of the dry'd Root, according to *Dioscorides*, cleanses the Skin of the Face from all Scurf, and the unseemly Remains of Scars. The Juice of the Leaves, dropt into the Ears, removes Pains, Noise, and Deafness. A Decoction of the Root removes Tooth-achs, if the Teeth are wash'd with it. The Powder

Powder of the Root, mix'd with Honey, deterges, incarns, and cicatrizes old Ulcers and Sores. In the Shops, the Root of the wild Cucumber is generally us'd as a Succedaneum, for that of the Coloquintida or Bitter Apple; since the latter is not so easily obtain'd as the former.

The present Method of preparing Elaterium is thus given by *Lemery*. Elaterium is, properly, the Juice of the wild Cucumber, as soon as it is extracted from it; but, as it is incapable of being preserv'd, for any considerable time, in this State, it is, therefore, to be prepar'd in the following manner:

Bruise ripe wild Cucumbers, in a Stone or Marble Mortar. Let them digest cold, for four or five Hours: Then heat them, and squeeze their Juice through a Linen Cloth. This Juice is to be put into a glass or earthen Vessel, and the Moisture evaporated, till what remains assumes the Consistence of an Extract, or becomes capable of being form'd into Pills; And this is what they call Elaterium. Some suffer this Juice to continue in a State of Rest for some time, and separate from it the Fæces, which they dry in the Sun, and which they call Elaterium. Others throw away the Fæces, and evaporate the depurated Juice, to the Consistence of an Extract: But I am of Opinion, that the Qualities of the wild Cucumber are more effectually obtain'd without this Depuration.

Elaterium powerfully evacuates, by Stool, thick Phlegm, melancholy and serous Humours. It is used in Apoplexies, Lethargies, Dropsies, and hypochondriac Melancholy. The Dose is from three Grains to half a Scruple. The Cucumbers, when bruised, are left in Digestion some Hours, that their viscid Parts being rarefied, the Juice may be more easily extracted from them.

Mr. *Soame* relates, from *Reusner's Observations*, publish'd by *Velschius*, that an Empiric us'd to give two Pills, of the Size of Chiches, compos'd of wheaten Meal, and the Juice of the wild Cucumber, to Patients labouring under a Dropsy, which was succeeded by a plentiful Purgation of Water. After this, with a Lotion for the Legs, made of a Decoction of the Stalks, he drew the Matter downwards, and then exhibited another like Dose of his Pills; and, by this means perform'd very many Cures. *Rati Hist. Plant. p. 648.*

In exhibiting Elaterium, great Caution should be us'd with respect to the Dose; for half a Scruple is too much; seldom more is exhibited at once than five Grains.

ELATINE MAS. A Name for the *Linaria*; *hirsuto folio, subrotundo; flore ex herbido flavescente.*

ELATINE FÆMINA. A Name for the *Linaria*; *hirsuto folio, acuminato, in Basi auriculato; flore luteo minimo.*

ELATINUM OLEUM, ἐλάτινον ἔλαιον. The Name of an Oil describ'd by *Dioscorides*, *Lib. 7. Cap. 54.*

ELECTIO. Election. This is, by some Writers, made a Part of Pharmacy, which consists in a Knowledge of the various Simples which compose the Materia Medica; and directs the Choice of Drugs, distinguishing the good from the bad. For an Account of the Doctrine of Elective Purges, see CATHARTICA.

ELECTRODES, ἤλεκτροειδής, from ἤλεκτρον, Amber. An Epithet for Stools which shine like Amber, in *Hippocrates*, *Epid. 4.*

ELECTRUM, ἤλεκτρον. Amber. See AMBRA.

ELECTUARIUM. An Electuary. A Form in which both officinal and extemporaneous Medicines are frequently made. It may be considered as a Number of Boles united together; but is made somewhat softer, by an Addition of a due Proportion of Preserves or Syrups. When the Consistence is very soft, it is call'd sometimes by the Name of Opiata. The Rules laid down for the Composition of a Bolus, may be justly applied to an Electuary.

The principal Considerations in prescribing officinal Electuaries are, that such Things only be put together, as will not, by any opposite Qualities, destroy one another, or lose their natural Properties, by lying long in this manner; and, likewise, that the Whole be of a Consistence that will hold Ingredients of different Gravities in equal Mixture. Thus, in all Electuaries where the testaceous Powders are ordered, or any thing of an alkaline Nature, no Acids, or any thing that will turn acid, ought to be mix'd, because they will ferment; their Weight, likewise, requires a thicker Consistence than can be well given by a Syrup, to hold them in Suspension; and, for offending in both these respects, the College have now expung'd the *Confectio de Hyacintho*, which consisted chiefly of testaceous and heavy Ingredients, and was made up with Syrup of Lemons. Things which are most liable to grow worse in this Form, chiefly affect the astringent Compositions; because that Roughness, or Asperity, in which their Astringency consists, by long lying in Moisture, grows softer, and, consequently, less efficacious in any such Intentions. This Change is very manifest, in comparing old Diascordium, or Conserve of red Roses, with new.

Extemporaneous Electuaries differ, principally, from the officinal, in that the latter are confin'd to such things as will, for a long time, keep together; whereas the former may be ventured upon with Materials, which will not long remain without Change, provided they agree in Intention; as Conserves, with

the testaceous Powders, Preparations of Steel, and the like, will continue together long enough for present Use, but will not lie many Days without fermenting and spoiling.

Yet, in the Prescription of extemporaneous Electuaries, there is some Care requisite, even for their convenient keeping a few Days fit for taking: Thus, if the lighter Species be made into an Electuary with Syrups only, it will, in a Day's time, grow too dry for taking, without fresh Moisture; which Inconvenience is often experienced with the Bark; and the Necessity of having enough of it in a tolerable Dose, is the only Excuse for so ordering it; for a sufficient Quantity of any Conserve, to preserve a Consistence, which is the only way in this Case, would increase a Dose of the Bark, in Electuary, to an unreasonable Bulk. The testaceous and heavier Powders, likewise, make an Electuary very disagreeable, without the Interposition of some Conserves: So that a Conserve seems a necessary Ingredient in this Form, only as a Vehicle to other Things; and the Consistence requisite in these Cases is; that a Dose may be taken up with the Point of a Knife, or any such thing, and not to be too hard to swallow without Trouble.

But, next to a due Consistence, a very material Circumstance in an Electuary is, that it be uniformly smooth, and as slightly as possible; for the Manner of taking it makes an Error in either of these respects very offensive. As Conserves, therefore, are, generally, in themselves, coarse enough to be knotty in the Mouth, and subject to grow more so, by candying in keeping; whenever they are ordered in an Electuary, they should previously be pulp'd through a Sieve, with a sufficient Quantity of some Syrup, suitable to the Intention: If any thing should be, likewise, added, which, by beating or rubbing on a Tile, cannot easily be rendered thus smooth, as Sperma Ceti, or the like, it may be thus drove through a Sieve with the Conserve, and the Species, or any dry Substances, put in afterwards. In regard to Colour, also, which is no slight Circumstance as to the taking of a Medicine, a good deal may be contrived to Advantage without Prejudice to its Efficacies. On this Account the *Æthiops*, or crude Antimony, if possible, should be kept out of this Form, because they give such an unsightly Black; and, for this Reason likewise, most Preparations of Steel make very unsightly Electuaries. But besides avoiding, as much as possible, those things which give ill Colours; others, which have not this Inconvenience, may yet be improved by suitable Mixture: Thus the Cinnabar, which of itself is an agreeable Red, loses its Beauty in any of the brown or green Conserves; but is improved by that of Roses or Hips, and especially if they be a little acidulated with Spirit of Sulphur. The Conserve of Roses is, likewise, so much improved in its Colour with every Acid, that, whenever it comes into an Electuary, it should be thus managed, unless the Intention absolutely forbids it, which can hardly be in any Instance, so as to make it hurtful.

There are some other Circumstances, likewise, in the Prescription of an Electuary, worth Consideration, and, particularly, with relation to the Efficacies of some things: Thus the stronger Cathartics ought not to be trusted in this Form; because the Manner of taking does not sufficiently ascertain the Dose: And the same Objection, likewise, holds against Opiates. The most powerful Alexipharmics, also, which are commonly given in acute Cases, are not conveniently thus trusted; so that an Electuary is hardly ever met with in a Fever. The Dearness of some things may be a farther Bar to this, as the Prices usual for an Electuary will by no means answer them: Thus Bezoar, or the Gascon's Powder, would make a reasonable Demand look like Extortion, which is what common Prudence would avoid.

The Quantity of an extemporaneous Electuary should seldom exceed three Ounces; and thereabout will an Ounce and half of Conserve, two Drams of the common Powders, with a sufficient Quantity of Syrup, amount to; though Cinnabar, and some of the heavier things, will not take up so much. And if this Rule, as to Quantity, be not observ'd by the Prescriber, but more be ordered, it is a common thing for the Compounder to do it for him by proportioning the Materials suitable thereto; as by making up half, or a third, of what is directed.

ELECTUARIUM AMARUM: The Bitter Electuary.

Take of Epithymum, half an Ounce; of Angelica-roots, three Drams; of Gentian, Zedoary and Aconus, of each two Drams; of Cinnamon, one Dram and a half; of Cloves, Mace, Nutmegs, and Saffron, of each one Dram; of Aloes, six Ounces; and with the Syrups of Citron and Orange-peels, and Sugar, each a sufficient Quantity, make them into an Electuary.

ELECTUARIUM DE BACCIS LAURI:

Electuary of Bay-berries.

Take of the Leaves of dried Rue, ten Drams; of the Seeds of Bishops-weed, Cumin, Lovage, Origany, Caraway, wild

wild Carrot, and Parsley, of black and long Pepper, of wild Mint, Calamus Aromaticus, Bay-berries, and Castor, each two Drams; of Sagapenum, half an Ounce; of Opopanax, three Drams; of clarified Honey, one Pound and an half: Powder all these Ingredients that require it, and make the Whole into an Electuary, by adding the Gums at last, after they are well dissolv'd in White-wine.

This Electuary is much commended for the Uniformity and Efficacy of all its Ingredients, either in the Intentions of a Carminative or Hysterical, which Purposes are advantageously enough aimed at by the same things in many Instances; as there is somewhat in them peculiarly assisting to each other. The Gums, as in all Compositions of this Make, are to be dissolv'd in as little White-wine as will serve to strain them; and then they are to be mix'd with Honey just warm'd; after which the rest are to be sifted in, when powder'd. This is very conveniently prescrib'd, from half a Dram to a Dram, in a Bolus, for any extemporaneous Occasion, and cannot well be mended by any Additions.

ELECTUARIUM CARYOCOSTINUM. See CARYOCOSTINUM.

ELECTUARIUM DIASPERMATON: *An Electuary of Seeds.*

Take of the greater and lesser Four cold Seeds, of the Seeds of Asparagus, Pimpernel, Basil, Parsley, and Winter-cherries, of each two Drams; of Gromwell, and Juice of Liquorice, each three Drams; of Cinnamon and Mace, each one Dram; of white Sugar dissolv'd in Water, eight times as much as the Whole: And make into an Electuary. S. A.

ELECTUARIUM EX ELLEBORO:

An Electuary of Hellebore.

Take of the Roots of white Hellebore sliced, one Pound; of Spring-water, six Quarts: Macerate them together for three Days, then boil to the Consumption of half; squeeze out the Liquor by a strong Expression; and to it add three Pounds of Honey, and boil up to a due Consistence.

This Electuary is but the same as the *Mel Helleboratum*, which was more proper, it being by no means to be called an Electuary, but only a thick Syrup. Its Dose is from half an Ounce to an Ounce and an half, or two Ounces.

ELECTUARIUM LENITIVUM: *Lenitive Electuary.*

Take of ston'd Raisins, fresh Polypody of the Oak, and the best Sena, each two Ounces; of Mercury, one Handful and an half; of Figs, Number twenty; of Maiden-hair, Violet-leaves, and cleans'd Barley, each one Handful; of Damask-prunes and Tamarinds, each six Drams; of Liquorice, half an Ounce: Boil them together, S. A. in ten Pints of Water, to the Consumption of a third Part, and squeeze out the Liquor by a strong Expression; and in Part of it, while warm, dissolve the Pulps of Cassia, Tamarinds, new Prunes, and of Sugar of Violets, each six Ounces: In the other Part of the strain'd Liquor melt two Pounds of the finest Sugar; and, lastly, add one Ounce and an half of Sena-leaves in Powder, and of Coriander-seeds, powdered, one Ounce to every Pound of the Electuary, so that it may be brought into a due Consistence for that Form. S. A.

We shall, says *Quincy*, offer an Alteration of this Composition, which any one may make use of at Pleasure. Take Polypody of the Oak, and French Barley, of each four Ounces; Mercury, and Maiden-hair, of each two Handfuls; Liquorice-root, four Ounces: Boil these in a sufficient Quantity of Water, to two Pounds, or thereabouts; to which add two Pounds of red Sugar, and strain them through a Flannel together hot: Then to this Syrup put the Pulps of Tamarinds, Cassia, and Prunes, of each six Ounces; Powder of Sena, half a Pound; of Anise-seeds, one Ounce; or, in its room, because the Seeds are difficult to powder fine, of the Oil, one Dram, or sixty Drops. Great Care must be taken, that the Pulps do not burn, or run into Knots, which is to be prevented by having the Fire slow, and stirring it well during Evaporation to a due Consistence: And when it is high enough, let it be almost cold, before the Powders are sifted in, because they will then mix the smoother. Few boil this Medicine up high enough, which makes it fret and ferment, and sour in hot Weather; and then it gripes, and operates much rougher than is intended: It ought therefore, to be of such a Consistence as will not stir by the greatest Heat, but keep its Form. This gently relaxes the Belly, and, in collicive Habits, where such things are often wanted, it may rather be taken at any time, to the Quantity of a Nutmeg, than as a Cathartic; but when it is so given, the Dose is from two Drams to one Ounce. A due Consist-

ence gives about one Dram of Sena, in Powder, to every six Drams of the Medicine.

ELECTUARIUM PECTORALE: *The Pectoral Electuary.*

Take of the Juice of Liquorice, and of sweet Almonds, of each half an Ounce; of Pine-leaves, one Ounce; of Hyssop, Maiden-hair, Florentine Orris, Nettle-seeds, and round Birthwort, each one Dram and an half: Seeds of Cresses and Elecampane-root, of each half a Dram; of Honey, fourteen Ounces: And make into an Electuary.

It is design'd for Distempers of the Breast, to soften, cool, and heal the Lungs; but the common Practice hath no Regard to it.

ELECTUARIUM E SASSAFRAS: *Electuary of Sassafras.*

Take of the best-scented Sassafras, two Ounces: of Spring-water, one Quart; boil to the Consumption of a third Part, adding, towards the latter End, of broken Cinnamon, half an Ounce: When the Liquor is strain'd, boil it again, with one Pound of the finest Sugar, to the Consistence of a thick Syrup: And stir into it, of the Powder of Sassafras, one Ounce; of Cinnamon, one Dram; and of Nutmegs, half a Scruple; so that it may be made into an Electuary. S. A.

It is a very grateful Medicine to take, and good in all Cases where Absorbents and Sweeteners are ordered. Its Dose is from half a Dram to two Drams, two or three times in a Day.

ELECTUARIUM E SUCCO ROSARUM:

Electuary of the Juice of Roses.

Take of Sugar, and the Juice of Damask-roses, each one Pound four Ounces; of the three Kinds of Sanders, of each half an Ounce; of Mastich, three Drams; of Diagrydium, twelve Drams. Let the Sanders be reduced to a Powder, and mix'd with the Diagrydium and Mastich, after they have been separately powder'd; and then mix'd with the Juice of Roses and Sugar, boil'd up into a Syrup, while it is warm, so as to make them all together into an Electuary.

This is, originally, a Prescription of *Nicolaus Myrepsus*, and receiv'd by the Augustan and College Dispensatories exactly alike; but in the new one are reject'd Spodium and Camphire, both which were in before, but of no Service to the Medicine.

Medicines in this Form abound in Pharmaceutical Writers. The Curious may consult *Lemery's Pharmacopée Universelle*.

Prosper Alpinus gives a very extraordinary Account of the Effects of an Indian Electuary, much in Use among the Egyptians, call'd *Bernavi*.

The Electuary of *Bernavi* is prepared in those Parts of the Indies which lie nearest to Egypt; and though the Egyptians receive it thence in large Quantities, they are entirely ignorant of the Ingredients of which it is compos'd; and yet it is a Medicine of uncommon Virtue and Efficacy; for they who take an Ounce of it, first become cheerful, talk much, sing Love-songs, laugh heartily, and are guilty of several other Instances of Mirth and Foolery. This Turn of Mind continues for about an Hour, after which they become fierce and wrathful; but they do not remain in this State for any considerable Time; for they become sad, melancholy, and dejected to such a degree, that they continually lament and bewail their Fate, till, at last, being seiz'd with a deep Sleep, they eliminate the offending Matter, and awake in their former State of Health. *Prosper Alpinus de Medicina Aegyptiorum*.

ELELISPHACOS, ἐλελίσφακος. Sage. See SALVIA.

ELEMENTA. The Elements or Principles of which all Bodies are compounded, and into which they are again resolvable. Philosophers have not yet agreed what these Elements are; neither have they said any thing relative to them, which has not been shewn by the Favourers of other Sects, to be false and absurd. As I do not apprehend, that a Disquisition on the Elements of Bodies would convey any considerable Knowledge relative to the Cure of Diseases, I shall enter no farther into this Subject.

ELEMENTATUS. An Adjective us'd by *Paracelsus*, importing excessive, either with respect to Heat or Cold.

ELEMI GUMMI. The Tree, which produces this Gum, is thus distinguish'd:

Arbor Brasiliensis gummi Elemi simile fundens, foliis pinnatis, flosculis verticillatis, fructu Olivæ figura & magnitudine, Raii Hist. 2. 1546. *Icicariba & illius Resina Icica*, Pison. (ed. 1648.) 59. *Icicariba & illius Gummi Icica sive Elemi*, Ejusd. (ed. 1658.) 122. *Icicariba Brasiliensis, cujus Resina dicitur Icica*, Marcg. 98. *Elemnifera Curassavica Arbor*, Parad. Bat. Prod. 332. Pluk. Phytog. 173. *Prunus Javanica Atriplicis foliis Commelini Kakoufa Javanis*, Ejusd. 218. Hort. Beaum.

Beaum. 35. *Prunifera Fago similis Arbor Gummi Elemi fundens, figura & magnitudine Olivæ ex Insula Barbadosi*, Pluk. Almag. 306. *Arbor ex Surinama, five Americana, Myrti Laureæ foliis, Elemi Resinam fundens*, Breyn. Prod. 2. 19. Ind. Med. 47. *Elemi Gummi, Ejusd. Kækuria, Myrobalanus Zeylanica, ex qua Gummi Elemi, Herm. Mus. Zeyl. 48. Kækuriahaka, Ejusd. 52. Gummi Elemi Officinarum, C. B. Pin. 504. Gummi Elemi, Park. Theat. 1586. Raii Hist. 2. 1847. Elemi, Mont. Exot. 11. Elemi Resina, J. B. 1. 535. THE GUM ELEMI-TREE.*

This is a softish, resinous, easily inflammable Gum, of a pale yellowish white Colour, of a pleasant agreeable Smell, especially when melted. It comes to us from the *Spanish West Indies* in long roundish Cakes, wrapt up in Flags or Leaves.

This Gum is seldom given inwardly, but is of great Service outwardly, being used frequently in all Kinds of Wounds, but especially those of the Head and Nerves, being mollifying, ripening, and easing Pain.

There is an Ointment in the Shops, called *Unguentum e Gummi Elemi*, and, sometimes, *Linimentum Arcæi*; which takes its Name from this Gum. *Müller's Bot. Off.*

It heats, mollifies, digests, resolves, ripens, eases Pain, is serviceable in Affections of the Head and Nerves, and Wounds of the same; and, in particular, is a Specific for Wounds of the Cranium: It is good for Contusions of the Joints, and provokes Urine and the Menfes. *Dale from Schroder.*

There is contain'd in it an essential Salt, envelop'd in a great Quantity of Oil, with a little Phlegm and Earth; it is only used externally in Ointments and Plaisters. *Lemery des Drogues.* See BALSAMUM.

UNGUENTUM E GUMMI ELEMI, five LINIMENTUM ARCÆI:

Ointment of GUM ELEMI, or ARCÆUS'S LINIMENT.

Take of Gum Elemi, Turpentine of Fir, of each one Ounce and a half; of old and depurated Mutton-suet, two Ounces: Mix them, and make an Ointment. S. A.

This most commonly goes by the Name of *Linimentum Arcæi*, from *Arcæus*, its Inventor; who, in a Treatise, *de rella Vulnerum Curatione, Lib. 1. Cap. 4.* greatly extols this Balsam, as he calls it, particularly in Wounds of the Head; and our Surgeons say it digests and incarnates much better than the Basilicon, which is apt to foul a Wound, and generate fungous Flesh.

ELENGI. The Name of a tall Tree, which grows in *Malabar*; from the Flowers of which, the Inhabitants distil a fragrant Water, which is said to be serviceable in Melancholy and Fevers.

ELEOSELINUM; from *ἔλεος*, a Fen; and *σέλιον*, Parsley. A Name for the *APIUM*, Smallage.

ELEPHANTIASIS, or ELEPHAS; *ελεφαντίασις*, or *ἐλεφαντίασις*. A Species of Leprosy. It is so call'd, because it affects the Legs in such a manner, as to make them appear like those of an Elephant. See LEPROA.

ELEPHANTINUM EMPLASTRUM. A Plaister describ'd in *Oribasius's Synopsis, L. 3.* There is one, also, under this Title, describ'd by *Celsus, L. 5. C. 19. Sect. 24.* which is very different from that of *Oribasius*.

ELEPHANTOPUS; of *ἐλεphas*, an Elephant; and *πούς*, a Foot; Elephant's Foot; a Plant so called by *Monfieur Vaillant*; because, he says, the Under-leaves of the first Sort somewhat resemble an Elephant's Foot.

The Characters are;

It hath a discous Flower, composed of several Florets, which are hermaphrodite, contained in one Flower-cup, which is cut into several Segments, almost to the Bottom; the Bottom of the Calyx is flat, and filled with Ovaries, which are beset on the Top with Hairs: The Disks are jointed upon a common Placenta, and form a Sort of Sheaf, garnished with a Foliage.

The Species are;

1. *Elephantopus Conyzæ folio*. Vaill. Mem. Acad. Scien. 1719. ELEPHANT'S FOOT WITH A FLEABANE LEAF.

2. *Elephantopus folio sinuato*. Vaill. Mem. Acad. Scien. 1719. ELEPHANT'S FOOT WITH A SINUATED LEAF.

3. *Elephantopus Helenii folis, flore purpurascens*. ELEPHANT'S FOOT WITH AN ELECAMPANE-LEAF, AND PURPLISH FLOWERS.

ELEPHAS. This Word has many Significations. In Zoology it imports the

Elephas Offic. Schrod. 5. 285. Schw. de Quad. 87. Raii Synop. A. 131. Aldrov. de Quad. 17. Gesn. de Quad. 376. Charlt. Exerc. 4. THE ELEPHANT.

The two large Teeth in the superior Jaw are the Parts of

the Elephant principally us'd in Medicine, as well as Mechanics.

It is called *Ebur* Offic. Mont. Exot. 5. Ind. Med. 47. IVORY.

Ivory is a Refrigerant and Drier; is moderately astringent, inciding, and a Strengtheners of the Viscera: It stops uterine Hæmorrhages, affords Relief in the Jaundice, expels Worms, is good for inveterate Obstructions; cures Pains and Weakness of the Stomach, and the Epilepsy; preserves from Melancholy; and resists Poisons and Putrefaction. *Dale from Schroder.*

Much the same Virtues are ascrib'd to Ivory as to Hartshorn. See CERVUS. See, also, the Article ALIMENTA, for a farther Account of Ivory.

Elephas, in Chymistry signifies *Aqua-fortis*. *Rulandus.*

In Botany, it imports a Plant call'd by *C. Bauhine*, *Scordio affinis Elephas ob Florem*; and, by *Parkinson*, *Scordio affinis Elephas Columnæ*.

ELEPODATUM. Filed. *Rulandus.*

ELERSNA. The same as *MOLYBDÆNA*. *Rulandus.*

ELESMATIS. Burnt Lead. *Rulandus.*

ELETTARI. A Name for the *CARDAMOMUM MINUS*. *Boerhaave.*

ELEVATIO, Elevation. Chymical Sublimation is, sometimes, thus call'd: And a Tumor is frequently call'd an Elevation of the Part affected.

ELEVATORIUM. An Elevator. A surgical Instrument, of which there are many Sorts, that are describ'd under the Articles of the Operations where they are us'd.

ELICHRYSON. The same as *Helichryson*, which see.

ELIDRION, imports *Mastich*, or *Mercury*, or *Rhaphontic*, or a metallic Mass, of three Parts, one of Silver, one of Brats, and one of Gold. *Rulandus.*

ELIGII MORBUS. A Fistula. *Johannes Anglicus.*

ELIGMA. A Linctus. *Nicolaus Myrepsus, Sect. 13.*

ELIXIR. *Lemery* derives this Word from *ελεω*, to draw, or extract; because in making Elixirs, the purest Part of the Ingredients is extracted by the Menstruum; or from *ελιξω*, to help; because of the Assistance receiv'd from Medicines of this Kind, in the Cure of Diseases. These Derivations, however, seem to be very remote from the true one, which is *Arabic*: *Al-ekfir*, or *Al-ekfir*, is Chymistry: Hence *Elixir*, a Medicine prepar'd by the chymical Art, is appropriated, by way of Eminence, to a Tincture extracted by a proper Menstruum, from many efficacious Ingredients; for the Difference betwixt a Tincture, and *Elixir*, seems to consist in this, that a Tincture is drawn from one Ingredient, sometimes with an Addition of another to open it, and dispose it to yield to the Menstruum; whereas an *Elixir* is a Tincture extracted from many Ingredients, at one and the same time: Add, that an *Elixir* is not so clear, but of a somewhat thicker Consistence than a Tincture. *Lemery* informs us, that an *Elixir* is, sometimes, call'd an *Enchiloma*.

There are a very great Number of Elixirs describ'd by chymical Writers, and in the Dispensatories, of which I shall specify those which follow.

ELIXIR PROPRIETATIS, with distilled Vinegar.

Take choice Aloes, Saffron, and Myrrh, of each half an Ounce; cut and bruise them, put them into a tall Bolt-head; pour twenty times their own Weight of the strongest Vinegar thereon; let them simmer in a gentle Sand-heat for twelve Hours: Now suffer the Whole to rest, that the Fæces may subside; and gently strain off the pure Liquor, thro' a Linen Cloth. Put half the Quantity of distilled Vinegar to the Remainder; boil, and proceed as before, and throw away the Fæces: Mix the two Tinctures together, and distil, with a gentle Fire, till the Whole is thicken'd to a Third: Keep the Vinegar which comes over for the same Use; and what remains behind, is the *Elixir Proprietatis*, made with distill'd Vinegar.

REMARKS.

Thus we obtain an acid, aromatic Medicine, of great Use in the Practice of Physic; for, when externally applied, it cleanses and heals putrid, sinuous, and fistulous old Ulcers, defends the Parts from Putrefaction, and preserves them by a true embalming Virtue: It also heals Ulcers, and cures Gangrenes in the Lips, Tongue, Palate, and Jaws. It has the same Effects in the first Passages, when used internally, as often as putresc'd Matter, corrupted Bile, concentered Phlegm, Worms, and numerous Disempers proceeding from these four Causes, are lodged and seated therein. Again, it has nearly the same Effects in the Blood and Viscera, as may easily appear, from knowing the Virtues of the three Ingredients, when dissolved in a subtle Vinegar. It is to be taken in a Morning, upon an empty Stomach, at least twelve Hours after Eating: It is given from a Dram to two

of three for a Dose, in Sweet Wine, Mead, or the like; walking after it, or having the Belly gently rubbed. If taken in a larger Dose, and with a somewhat cooler Regimen, it always purges; if in a less Dose, and often repeated, it cleanses the Blood, by secreting thick Urine; and generally performs both these Operations successively: But, if taken plentifully, while the Patient is in Bed, and the Body well covered, it acts as an excellent Sudorific; and, afterwards, usually purges, and proves diuretic; and thus becomes every way useful. Hence I conceive, that this is the best acid *Elixir Proprietatis*, good in numerous Cases, and, at the same time, safe. *Paracelsus* declared, that an Elixir made of Aloes, Saffron, and Myrrh, would prove a vivifying and preserving Balsam, able to continue Health and long Life to the utmost possible Limits: And hence he calls it, by a lofty Title, the Elixir of Propriety to Man: But conceal'd the Preparation; in which *Helmont* asserts the Alkali is required. *Crollius* formerly used the Oil of Sulphur made by the Bell, as a Menstruum in this Case, upon considering, according to the Doctrine of *Paracelsus*, that an hungry Acid was proper in stomachic Remedies; but when this is used, the Aloes and Myrrh are scorched, and acquire a stony Hardness, so as not afterwards readily to dissolve in Alcohol: For this Use they require, that the strong Acid of the Sulphur should be diluted: Hence, I conjectured, that a mild, oily, vegetable Acid, would prove a commodious and proper Solvent, in this Case, for medicinal Uses; and, upon adding an equal Quantity of Alcohol to the Elixir prepared in this manner, it becomes more balsamic, mild, and effectual. It, in every respect, resembles the *Pilula Ruffi*, and may be successfully used in their stead.

ELIXIR PROPRIETATIS, with a distil'd Water.

Reduce equal Quantities of Aloes, Saffron, and Myrrh, to Powder; put it into a tall chymical Glas; add twenty times their Weight of distil'd Scurvygrass-water; and proceed as above directed.

R E M A R K S.

This Elixir, tho' excellent, has this Inconvenience, that, when long kept, it grows mothery; but it has extraordinary Virtue in the Body, like those described above, excepting that it wants the Acid. It is an excellent Purge, and, instead of Scurvygrass-water: Any other aromatic Water may be employed.

ELIXIR PROPRIETATIS, with a fixed Alkali.

Take the same Species as above, put them into a Bolt-head, and pour as much Oil of Tartar *per Deliquium* to them, as will make them into a moderately thin Paste, which is to be digested in a gentle Sand-heat, of an hundred Degrees: The longer the Digestion is continued, the better; the Vessel being stopped: And thus, in time, the Alkali will intimately dissolve the Aloes and Myrrh for this Purpose. When the Matter is thus prepared, let it be treated with any distilled aromatic Water, as above described; and thus there will be obtained an alcalized *Elixir Proprietatis*, with a distil'd Water. Or else, to the Species prepared as above, add twenty times their Weight of pure Alcohol, and boil them for twelve Hours: When cold, carefully pour off the upper Liquor from the Faeces; add more Alcohol to the Remains, and proceed as before, till all the Virtue be drawn out; then thicken the Tinctures together by gentle Distillation, till the Liquor acquires the Consistence of Oil of Almonds; and keep it under the Title of *Elixir Proprietatis, with Alkali and Alcohol*: The Virtues of which Preparation cannot be sufficiently recommended: Or, if, instead of Alcohol, common Spirit be used, a thicker, and no less noble Elixir will be obtained. In this Preparation I have sometimes used, instead of Alcohol or Spirit, the simple or compound Spirit distil'd from Aromatics; as, the simple aromatic Spirit of Lavender-flowers, the simple aromatic Spirit from the dry Leaves of Mint, and the simple aromatic Spirit from the green Leaves of Rosemary, and, sometimes, with a compound Spirit; and the Elixir, so prepared, has proved excellent.

R E M A R K S.

These Elixirs are of frequent and excellent Use in all Distempers proceeding from austere, aqueous, cold, phlegmatic, and scirrhous Causes, or Obstructions without Inflammations; they purge generally by all the Emunctories of the Body; and are, at the same time, grateful to the Nerves and Spirits. They excellently forward the Birth, promote the Menstrues, bring down Milk, kill Worms, and supply the Defect of the Bile; whence Practitioners cannot be without

them. They act by means of the Alkali, the dissolved Ingredients, the Spirit, and the Waters, employed in various ways.

ELIXIR PROPRIETATIS, with tartarified Tartar.

To the same Ingredients, reduced to Powder, pour thrice their Weight of the Liquor of tartarified Tartar; digest them in a close Vessel, for three Days, in an Heat of an hundred and fifty Degrees; and thus the Ingredients will be entirely dissolv'd into an uniform pappy Mass, much better than by Vinegar, Water, or alkaline Liquor: Then pour on twenty times the Quantity of Alcohol, in respect of the Ingredients, and boil them, gently, for twelve Hours: Let all cool, and stand at Rest; then decant the clear Liquor, and treat the rest with more Alcohol, as before, till nearly the Whole be dissolved; for little Faeces will here be left. Inspissate all the Elixirs, with a gentle Fire, to the Thickness of Oil; preserve the Alcohol for the same Use; and thus will be obtained the *Elixir Proprietatis*, with tartarified Tartar and Alcohol.

R E M A R K S.

This Elixir, being prepared with a compound, and wonderfully opening Salt, has greater Virtues than the foregoing; so that it is admirable in old inveterate Obstructions, which it powerfully resolves, without offending by any acid or alkaline Property; for these compound Salts, along with what they resolve, generally pass quick through the Vessels of the Body.

ELIXIR PROPRIETATIS, with regenerated Tartar.

Put the above-mention'd Species into a tall Glas, and pour thereto thrice their Weight of the Liquor of regenerated Tartar; digest for three Days, and the Aloes and Myrrh will be thus almost entirely dissolved, and the Saffron thoroughly open'd; then add twenty times the Weight of pure Alcohol, with respect to the Powder, boil them gently for twelve Hours; and, in other respects, proceed as before: There will remain a few Faeces, which may be thrown away. Inspissate the Elixir to an half; reserve the Alcohol for the like Use: The Elixir will be, and always continue, thick and turbid.

R E M A R K S.

In this last Preparation, the Ingredients are almost wholly dissolved, so as to become uniform and potable; whence I have found this Elixir to have an incomparable opening and dissolving Virtue, in most chronical Diseases; where it mightily liquefies the Concretions in the Vessels, agreeably stimulates the nervous System, so as to throw off the Matter thus dissolved, and prevents Putrefaction, which, in these Cases, is so frequent and destructive. Hence it relieves the Viscera, restores their Action, impaired by an obstructing Matter, resolves the Tumors, and thus cures numerous Distempers, scarce otherwise curable: Whence I have been almost inclin'd to esteem this Elixir, as the Elixir of *Paracelsus* and *Helmont*.

In all these Processes we have an Example of the chymical Solution and Preparation of the same thing, by various Solvents; and learn by what means these Solutions have different Virtues, according to the Difference of the Menstruum; and that these Elixirs ought to be prepared with different Menstruums, for daily Use, according to the Intention of the Physician: So, likewise, they act differently, according as they are determined by the Prescriber: Thus, if taken with *Venice Treacle*, they prove sudorific; if along with a Cathartic, they purge; and, if along with Whey, or mineral Waters, they prove diuretic, provided the Patient walks abroad in the cool Air. They all of them preserve the Bodies of Animals from Putrefaction, if suspended therein, except that prepared with Water: They are all of them excellent in case of carious Bones, except those prepared with Acids; and hence they should always be ready at hand for Practice, as being almost general Medicines; and no Wonder, since Saffron is a true Exciter of the animal Spirits; Aloes, an excellent and innocent Purgative; and Myrrh, the highest Antiseptic; but, in those Distempers, where the Blood is too much broke, in large Bleedings, or the Hemorrhoids, or where the Humours are in too violent a Motion, they are by no means proper, but pernicious.

Boerhaave's Chymistry, Vol. 3. Process. 81. &c.

The London Dispensatory directs two Processes for preparing the *Elixir Proprietatis*, both different from the preceding. The first is call'd, simply,

ELIXIR PROPRIETATIS.

Take of choice Myrrh, of the best Aloes, and of Saffron, of each three Ounces; when they are powder'd, pour upon them a Quart of rectify'd Spirit of Wine: Digest them four Days, to an Extraction of the Tincture, which pour off: To the Remainder, pour on more Spirit of Wine; digest, and pour off as before; and, afterwards, draw away some of the Spirit by Distillation: It is made acid, by an Addition of the Spirit of Sulphur; any Quantity, at Discretion.

This may be given from ten to thirty Drops to Children; and to grown Persons, from twenty to sixty Drops, or more.

It is particularly good in pale, wan Complexions; and will, itself, frequently cure the Green-sickness; but in hot, florid Constitutions, it does not so well agree, especially in those subject to the Gravel. It is accounted very good to destroy Worms in Children; and, certainly, there is nothing better to keep the Bowels clear of those slimy and viscid Humours, the Effects of Indigestion, which breed them, than this Medicine, if long and frequently taken, as twice or thrice a Day, for three or four Weeks together.

The other is under the Title of

ELIXIR PROPRIETATIS HELMONTII.

Take of red Tartar, and Nitre, each twelve Ounces: Let them be powdered, and, by degrees, put into an hot Crucible; let then the calcined Matter be poured into a Glass Mortar, whereupon pour two Pints of White-wine, and make a Lixivium: In this Lixivium, put Aloes and Saffron, each one Ounce and an half, so as to make a Tincture.

Take of Sal Armoniac, eight Ounces; dissolve it in twenty Ounces of Spring-water; and, when strained, evaporate it to a Dryness: Of this Salt take one Ounce; of White-wine, one Pint; and make a Lixivium, in which dissolve one Ounce and an half of Myrrh, so as to make a Tincture. Mix all these Tinctures together in a Vessel, well stopped, so as to make them into an Elixir.

ELIXIR VITRIOLI: *Elixir of Vitriol.*

Take Cinnamon, Ginger, and Cloves, of each three Drams; Calamus aromaticus, one Ounce; Galangal, an Ounce and an half; Sage and Mint dry'd, of each half an Ounce; Cubebs, and Nutmegs, of each two Ounces; Wood of Aloes, and Citron-peel, of each one Dram: Powder them together, and add to them white Sugar-candy, three Ounces; Spirit of Wine, three half Pints; and Oil of Vitriol, one Pound: Digest them together for twenty Days; and then pour off the Liquor, and filtre it for Use.

This is now transplanted into the College Dispensatory; where it is ascribed to *Mynsicht* for its Author. The Spirit had better be digested upon the Ingredient some time by itself, because the Oil of Vitriol gives a Thickness to it, and disables it from taking out the Virtues of the Spices; and, when it is put in, it must be done very gradually, because it will otherwise cause so sudden an Heat, as to endanger bursting the Vessel. Many have got a way of putting in *Jamaica* Pepper, for all the Spices; but it is not so just to vary from the Receipt, when there is no Reason for it but Cheapness, and the Medicine thereby becomes the worse; which it certainly does in this Instance, because that is a more oily Spice than those here order'd, and therefore cannot make so good a Stomachic. This Medicine is greatly come into Practice of late, and very deservedly; for it mightily strengthens the Stomach, and will do good Service, sometimes, where Bitters avail nothing, especially in Relaxations from Debauches and Over-feeding. This very well imitates the Virtues of the celebrated Bark, and is properly given in all Intentions, where that is found to succeed; so that, by its Help, Intermittents, and many Disorders from too lax a State of the Solids, may be remov'd, with a much less Quantity of the Bark than they might otherwise require. It has an Influence, also, over many Dissemper of the Head to Advantage, and preserves against Epilepsies, Apoplexies, Palsies, and rheumy Effluxions. It may be given from ten, to thirty or forty Drops, in any suitable Vehicle, once, twice, or thrice a Day; observing to take it when the Stomach is most empty, as in the Morning fasting, a little before Dinner, and in the Afternoon. This is the very Medicine which Mr. Fuller, Author of the *Medicina Gymnastica*, gives an Account of, in his Appendix, to have been order'd to him by a Physician; and by the sole Help of which he was recover'd from a most deplorable Decay of Constitution, particularly of the Stomach, and continual Reachings to vomit for some time; tho', from a Return afterwards into the same Irregularities,

which was, driving away hypochondriac Complaints by spirituous Liquors, he relapsed, and died.

ELIXIR SALUTIS.

Take of Sena-leaves, cleared of their Stalks, four Ounces; of Guaiacum-chips, of dry'd Elecampane-root, of the Seed of Anise, Caraway, Coriander, and of Liquorice-root, of each two Ounces; of Raisins ston'd, eight Ounces; of French Brandy, three Quarts: Steep them together cold for four Days, and then strain out the Spirit for Use.

This is in *Shipton's Additamenta*, where he says, that some, likewise, add Salt of Tartar, Rhubarb, Scammony, and Jalap, in order to make it operate more briskly; for, as here directed, the purgative Ingredient, which is the Sena only, bears so small a Proportion to the Quantity of Spirit, in a Dose sufficient for a Purge, that it is too strong for most Persons, who have not been accustomed to spirituous Liquor: It, therefore, is now to be deemed rather a Carminative than a Cathartic; and, in some colic Pains it gives great Relief: The Dose is, one or two Spoonfuls at a Night, and three or four in the Morning.

Daffy's Elixir is said to be little more than this.

Whereas I have frequently, in my Quotations from *Frederic Hoffman*, mention'd his *Elixir Balsamicum*, *Balsamum Vitæ*, and *Balsamum Liquidum Spirituosum*, by which I apprehend he means the same Medicine; it will be proper in this Place, to communicate so much as is known of its Preparation.

ELIXIR BALSAMICUM HOFFMANNI.

This Preparation is found under the Title of *Balsamum Vitæ Hoffmanni*, in the *Strasburg* and *Ratisbon* Dispensatories; and is taken, with a little Variation, from the Author's Notes on *Poterius*; where the following Directions are given for its Preparation:

Take of the fresh-distil'd Oils of Lavender, Marjoram, Cloves, Cubebs, Cardamoms, and Citron, each one Scruple; of the distil'd Oil of Mace, two Scruples; of the Oil of Cinnamon, twenty-four Drops; of the Oils of Rue, and white Amber, each half a Scruple: Let these Oils be mix'd together, and stand for some Weeks.

When, therefore, we want the extemporaneous Balsam of Life, let ten Drops of these Oils be pour'd into an Ounce of highly rectify'd Spirit of Wine. And if we intend, that it should be render'd more grateful, half a Scruple of Ambergris may be previously dissolv'd in the Oils. But this Balsam will still be impregnated with higher and richer balsamic Qualities, if to one Ounce of it we add half a Dram of Peruvian Balsam; by which it is render'd good against Apoplexies, and is of singular Use both internally and externally. Internally it may be given from ten to twenty Drops in Weaknesses, colic Pains, Faintings, and Lowness of Spirits; and, externally, it may be applied to the Nose, the Wrists, the Nape of the Neck, and the Crown of the Head; in all Weaknesses of the Head, as also in spasmodic and lethargic Disorders.

But, according to *Schulzius*, in his *Prælectiones*, this is not the Description of that liquid spirituous Balsam which the Author has for many Years prepar'd in his own House; for, says he, I am absolutely certain, that no one has got the Preparation from himself. However, the Circumstance of the most Importance consists in the Purity of the distil'd Oils, and their not having chang'd or lost the fine and subtle Nature of their æthereal Particles by Length of Time; for which Reason, he not only distils a great many vegetable Oils himself, but also subjects such as are a Year old to a new Distillation; that, by depositing their recementitious Parts, they may recover their due and natural Fineness; for he imagines, that the finer these Oils are, the more readily they pass through the Emundatories, and are, consequently, fitter and better accommodated to internal Use. With respect to the various Uses of this Elixir, whether internal or external, the Author is very full in several Parts of his Works. The Dose is from ten to fifteen, or twenty Drops. See the Article BALSAMUM.

ELIXIS, *ελίξις*, from *ελίξω*, to lick. An Eclogia, or Linctus.

ELIXIVIATIO, Elixivation; that is, the Operation by which a fix'd Salt is extracted from the Ashes of Vegetables, by an Assusion of Water.

ELIZ, or ELZIMAR, or ELZ. *Πλος Αλίζ*. *Johnson*, See *Als*.

ELLEBORINE. See HELLBORINE.

ELLEBORITES. See HELLEBORITES.

ELLEBORUS. See HELLEBORUS.

ELLOBOS,

ELLOBOS, ἑλλοβος. An Epithet for such Seeds or Fruits as are contain'd in Pods or Lobes.

ELLYCHNIOTOS, ἐλλύχνητος, from ἐλλύχνην, the Wick of a Lamp or Candle. A Sort of Lint us'd by the antient Surgeons, thus call'd, either because it was made up in the Form of a Wick of a Lamp; or, rather, because it was made of the same Materials.

ELLYCHNION, ἐλλύχνηον from λύχνη, a Lamp; the Wick of a Lamp, or Candle.

The *Ellychnium* of the Antients was a certain Kind of Matter, which serv'd them for a Wick to their Lamps or Candles. This appears from *Galen*, who, *Lib. 14. M. M.* directs the Use of *Ellychnium*, especially the softest, such as that of *Tarsus*, instead of a Sponge; but of what particular Stuff or Materials this *Ellychnium* of *Tarsus* was compos'd, we have no Information: For, tho' *Pliny* mentions some *Ellychnia*, such as that compos'd of the Fruit of the *Ricinus*, which he commends for its extraordinary Clearness, and that made of the *Papyrus*, and another prepar'd of the *Phlomis*, which Plant is therefore call'd *Lychnitis*, and, by some *Tryallis*, having thick fat Leaves, very well adapted for the Purpose; and, lastly, that compos'd of a kind of Sulphur; yet, he no-where says a Word of the *Ellychnium Tarsense*: The only one who mentions it is *Galen*, who, *Lib. 13. M. M.* shewing the Method of bringing Ulcers to a Cicatrix, speaks of this *Ellychnium*; and, *Lib. 14. ibid.* teaching a Way to cure an oedematous Swelling, he advises to use a Sponge dipt in Oxycrate; and, for want thereof, an *Ellychnium* of *Tarsus*. *Cornarius, Comment. in 3. κατ. τοπ.* endeavours to prove it a kind of terrestrial Fungus, which is accommodated to serve instead of Wicks for Lamps or Candles, and; also, used instead of Sponges, especially when they are new: But the learned *Mercurialis, Var. Lect. Lib. Cap. 17.* explains it of a Kind of Wood, call'd by the Greeks ξύλον (*Xylon*), that is, Cotton.

ELMINTHES, or **HELMINTHES**, ἑλμινθες. Worms.

ELOANX, or **ELOME**. The same as **AURIPIGMENTUM**.

ELODES, or **HELODES**. An Epithet for a Species of Fever, attended with profuse Sweats, something like the **SUDOR ANGLICUS**.

ELOGIUM. This Word is us'd by *Paré*, in the same Sense as *Renunciatio*; which is, the Judgment or Report of a Physician, relative to the State of the Sick.

ELOME. See **ELOANX**.

ELONGATIO. An imperfect Luxation; when the Ligaments of a Joint are strain'd, and the Limb lengthen'd, without being perfectly out of Joint.

ELOTTINUM. Vitriol. *Rulandus*.

ELOS Maris. Burnt Lead. *Rulandus*.

ELOXOCHITL. The Name of an Indian Tree, mention'd by *Ray*, under the Article *Banana*, without ascribing any medicinal Virtues to it.

ELPIS. The Scoria of Silver. *Rulandus*.

ELTZ. See **ELIZ**.

ELUTRIATIO. The pouring a Liquor out of one Vessel into another, in order to separate the subsiding Matter from the clear and fluid Part.

ELUVIES, in *Pechlinus*, imports the Humour discharg'd in a *Fluxus Albus*.

ELUXATIO. The same as **LUXATIO**.

ELYMAGROSTIS. A Name for the *Gramen*; *Panicum*; *Panicula simplicis*. See **PANICUM**.

ELYMOS. A Name for the **PANICUM**. *Blancard*.

ELYTHROIDES. The *Tunica Vaginalis* of the Testicles.

ELYTRON, ἑλυστρον from ἐλύω, to involve, or cover. An Involucrum, Covering, Vagina, or Sheath of any Kind. *Hippocrates* calls the Membranes which involves the spinal Marrow, ἑλυστρον.

ELZIMAR. See **ELIZ**.

EMANSIO. *Ettmuller* thinks *Emansio Mensum*, would be a more proper Term than *Suppressio Mensum*, to express a Cohibition of the Menstrues. This Observation appears very trifling.

EMBAMMA, ἑμβάμμα from βάπτω, to immerge, or dip. A Sauce, or Pickle, to dip Victuals in, as it is eaten. Mustard is a Sort of *Embamma*.

EMBAPHION, ἐμβάφιον. An *Acetabulum*, or Cruet, for holding *Embammata*. In *Hippocrates*, it sometimes imports a Measure, the same as *Acetabulum*.

EMBASIS, ἐμβασις from ἐν, in, and βάτω, to go. A bathing Tub, or Vessel, fill'd with warm Water.

EMBAPE, ἐμβάπε. This Word is in *Hippocrates, de Morbis internis*. It is explained a leathern Garment. But some take it to signify the same as *Embasia*.

EMBOLE, ἐμβολή from ἐμβάλλω, to put in. The Reduction or Setting of a dislocated Bone.

EMBORISMA. A barbarous Word, importing an *Aneurysm*.

EMBOTUM. A Funnel, for conveying Fumes into any Orifice of the Body.

EMBREGMA, **EMBROCHE**, ἐμβρέγμα, ἐμβροχή from ἐμβρέχω, to irrigate, or moisten; an Embrocation. It is an external Kind of Remedy, which consists in an Irrigation of the Part affected, with some proper Liquor, by means of a Woollen or Linen Cloth, or a Sponge dipt in the same. Its Use is either to attenuate and dislodge something obstructed underneath the Skin, to ease Pain, or to irritate the Part into more Warmth, and a quicker Sense of Feeling.

EMBROCATIO. The same as the preceding Word; which see.

EMBRONTETOS, ἐμβρόντητος from βροντή, Thunder; is, properly, one Thunder-struck; but is, from a Similitude of Effects, apply'd to a Person seiz'd with the Apoplexy.

EMBRYO, **EMBRYON**, ἐμβρυον (from ἐν, in, and βρύω, to pullulate, or bud forth; παρὰ τὸ ἔσω βρύειν, ὡς ἐντὸς τῆς γαστρὸς αὐξάνειν, "because it pullulates in the internal Parts, and grows within the Womb") in the Sense of *Hippocrates*, is the Child, or Fœtus, in the Womb, as appears from 5 *Aph. 31. 48. 60.* and other Places of his Works. *Galen, de Symptom. Caus. Lib. 1. Cap. 7.* says, that the Fœtus, under two Months old, is not call'd in *Greek*, *Embryon*, but κύημα, *Cyema*, "a Conception." *Marcellus*, in *Fœtura Hominis* observes, that the *Embryo* is what the pregnant Woman carries in the Womb, and is call'd by that Name as long as she carries it. *Dioscorides* uses the Word in the same Sense in many Places. This Term *Embryon* is apply'd by *Homer*, and frequently by *Aristotle*, to the Fœtus of Brutes; and, by *Theophrastus*, to the Seeds of Plants; in which he is follow'd by modern Authors.

EMBRYONATUM Sulphur. The Chymists, particularly *Gerard Domneus*, distinguish Sulphur into three Kinds: The first is the universal Sulphur, or Resin of the Earth, not united with any thing; by which they seem to mean, the universal Acid. The second is, the *Sulphur Embryonatum*; that is, the same Sulphur, united to Minerals and Metals. The third is the same Sulphur, separated from Metals and Minerals by Art.

EMBRYOTHLASTES, ἐμβρυοθλάστης from ἐμβρυον, a Fœtus; and θλάω, to break. An Instrument contriv'd for breaking the Bones, for the more ready Extraction of the Fœtus, in difficult Labours. *Hippocrates* calls it πείστρον.

EMBRYOTOMIA; from ἐμβρυον, a Fœtus, and τέμνω, to cut. An Exsection of the Child out of the Womb. It differs from the *Cæsarean Section* in this, that in the last the Child is taken out entire, by an Incision made in the Abdomen of the Mother; whereas, in this, the Child is cut into Pieces whilst in the Womb, for the more easy Extraction, without injuring the Mother.

EMBRYULCUS, ἐμβρυυλάκης from ἐμβρυον, a Fœtus, and ἔλκω, to draw. A Hook, for the Extraction of a Child in a difficult Labour. It is also call'd ἐλκυστήρ. See *Tab. 54. Fig. 16. 17. 18. 19. 20. and 21.*

EMBULA. A Pipe. *Rulandus*.

EMBULARCHI Suffumigium. A Suffumigation describ'd in *Actius, Tetrabib. 4. Serm. 4. C. 122.*

EMBYAYEMBO. The Name of a Plant, which grows in *Brazil. Raii Hist. Plant.*

EMERICUS. Emery. See **SMYRIS**.

EMERUS.

The Characters are;

It has the Leaves and Appearance of the *Colutea*; and bears a slender Pod, full of cylindrical Seeds.

Boerhaave mentions two Species of this Plant; which are,

1. *Emerus Cæsalp. 117. Colutea, scorpioides, major & clatior, frutescens. M. H. 2. 122. SCORPION SENA.*

2. *Emerus; minor. Tourn. Inst. 650. Elem. Bot. 510. Boerb. Ind. A. 2. 49. Emerus, Offic. Colutea humilis, Park. Theat. 227. Colutea Scorpioides humilis, Ger. 1117. Emac. 1300. Raii Hist. 1. 924. J. B. 1. 382. Chab. 81. Colutea Scorpioides humilior & minor, Hist. Oxon. 2. 122. Colutea siliquosa minor, C. B. Pin. 397. Colutea siliquosa seu Scorpioides minor, Jons. Dendr. 378. Coronilla montana, Rivin. Irr. Tetr. Rupp. Flor. Jen. 216. Buxb. 85. LESSER SCORPION SENA.*

This Plant grows in hilly Places, and flowers in June. The Leaves are used; but *Boerhaave* is unacquainted with any medicinal Virtues belonging to them. *Ruppins* writes, that the common People substitute the Leaves, instead of those of *Sena*; and *Busbaum* tells us, that the old Women, who pretend to Medicine, call it **SENE BLATTER**, and use it instead of *Sena-leaves. Dale.*

EMESIA, and **EMESMA**, ἐμεσία, ἐμεσις, and ἐμεσμα from ἐμω, to vomit. The same as **EMETOS**, which see.

EMETICA, from ἐμω, to vomit. Emetics, or Medicines which induce Vomiting.

Hippocrates, as a powerful Preservative against Diseases, ordered Emetics, which were to be exhibited once or twice a Month, during the Winter and Spring. The most simple of these Emetics consisted only of a Decoction of Hyssop, with the Addition of a small Quantity of Salt and Vinegar. This Preparation was to be taken, falling, by those who were in good Plight

Plight of Body; whereas those who were lean and extenuated, were to use it after Dinner or Supper.

We learn from *Diodorus Siculus*, that the Practice of the antient *Egyptian* Physicians consisted pretty much in provoking to vomit, together with Clysters and Abstinence.

Aesclepiades, notwithstanding his Aversion to Purges, yet ventur'd to vomit his Patients sometimes, particularly after Supper. *Plutarch*, however, appears to have been a very great Enemy to Emetics, as well as Cathartics, if we may judge of his Sentiments by his Writings.

Among the several Medicines of the evacuating Kind, Emetics, or such as excite Vomiting, are none of the least considerable. These are either mild and gentle, or of a more strong and drastic Nature. Among the former, we may justly reckon common Water render'd tepid, with the Addition of a little Salt and Honey, or express'd Oil, or Fat, or made into a Decoction with the Seeds or Bark of Horse-radish, or the Seeds of Dill; or the Waters of warm Mineral Springs, drank in large Quantities at a time.

Among those of the more violent and drastic Kind, the Vegetable Kingdom supplies us with these following: The Leaves and Root of Asarabacca, white Hellebore, the Juice of the middle Bark of the Elder-tree, Gamboge, Ipecacuanha, and all the drastic Purgatives exhibited in too large Quantities; among Metals and Minerals, all Preparations of Copper, such as white *Cyprian* Vitriol, the Gilla of *Paracelsus* and *Angelus Sala*, prepared of the *Caput Mortuum* of the Oil of Goslar Vitriol, which partakes of the Nature of Copper; the Crystals of Verdigrise; the Emetico-diaphoretic Salt of *Meubius*, prepar'd of equal Quantities of Goslar Vitriol and Nitre; as also such Substances as receive their emetic Qualities from the reguline Part of Antimony they contain, such as emetic Tartar, Glass of Antimony, and the *Aqua Benedicta* of *Rulandus*, prepar'd of it; the *Mercurius Vitæ*, especially when prepar'd of rectified Butter of Antimony, by Precipitation with common Water, or Oil of Tartar per Deliquium; the *Pulvis Monckii*, prepar'd of two Parts of the chalybeated Regulus of Antimony, and one of Nitre; the Golden Sulphur of Antimony corrected, and the *Panacea Glauberiana*, or *Conordingiana*, if five or six Grains of them are exhibited.

The milder Emetics, and such as are pretty much of a dietetic Nature, were principally used by *Galen*, and the Antients, since they are safe, and generally, by their Quantity, stimulate the Stomach to vomit, especially when it is weak, and dispos'd to throw up its Contents, which may be discover'd by a Nausea, Eructations, Bitterness of the Mouth, and the uneasy State of the Patient. But these do not act beyond the Limits of the Stomach, from which they very advantageously evacuate crude, phlegmatic, and bilious Humours, produced by improper Aliments, or a bad Digestion.

The more strong and drastic Emetics, when exhibited in a small Dose, by their fine, caustic, salino-sulphureous Acrimony, act, not only on the nervous Coat of the Stomach and Intestines, by spasmodically constricting them; but, if exhibited in a somewhat larger Dose, they penetrate beyond the Stomach, into the highly nervous biliary Ducts, into the Glands of the Intestines, Mesentery, and Pancreas, as also into the Liver, and expel their contain'd Humours from these Parts. Sometimes, also, they affect the whole nervous System, and prove highly injurious to the Constitution.

PRACTICAL COROLLARIES.

The Antients, as an Emetic of the most drastic Kind, us'd white Hellebore, as *Celsus*, in the 13th Chapter of his second Book, informs us; and that in Epilepsies, Madness, and other terrible Disorders, when not accompanied with a Fever. But he justly advises, that the Body should be duly moisten'd, before this Medicine is used. But in our Times, as we have more safe Emetics, we justly abstain from this drastic Medicine, and make Choice of such of the above-mention'd, as are more friendly to Nature, and the nervous System, and may be exhibited with less Danger: Among which we may justly give the Preference to that *American* Root Ipecacuanha, half a Dram, or more, of which may be exhibited for a Dose. This Root, besides its saline, subtle, and acrid Principle, also contains one of a balsamic and corroborating Quality, and has this peculiar Advantage attending it, that it soon produces its Effects; for which Reason it is very properly used where Delays might be attended with bad Consequences. And because, in Vomiting, the peristaltic Motion of the Stomach, and by Consent that of the Intestines, is inverted, if the Vomiting is very intense in a Diarrhoea, or Dysentery, the Flux is by that means check'd and stop'd for some time. Hence *Celsus*, in the third Chapter of his first Book, justly asserts, that Vomits stop Fluxes, and render the Body soluble, when costive. The most commodious Succedaneum for Ipecacuanha is Asarabacca, the Root and Leaves of which are possess'd, not only of a subtle, acrid, volatile, and caustic Principle, which in Boiling easily exhales, but also of a corroborating and balsamic Quality, and afford singular Relief in inveterate Fevers of the tertian and quartan

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Kind, as also in Dropsies, and the Jaundice. Among antimonial Preparations, we give the Preference to emetic Tartar, prepar'd of the *Crocus Metallorum*, and not of Glass of Antimony, which is as strong again. Three or four Grains of this Tartar, either alone, or in a smaller Dose with Ipecacuanha, prove an excellent Vomit. And if the Intention is to purge and vomit at one and the same time, two or three Grains of emetic Tartar may be added to a Decoction of Manna. With the same Intention we may use five or six Grains of the *Panacea Glauberiana*, exhibited with one Scruple of Cream of Tartar; and in a pituitous Asthma, this End is sometimes very commodiously answered by two or three Ounces of Oxymel of Squills. But as for the emetic Preparations of Copper, which, by their constrictive Quality, long exagitate the nervous Coats of the Stomach, and other Parts; as also the reguline Powders of Antimony, the *Pulvis Monckii*, the Glass of Antimony, and the *Mercurius Vitæ*, whose Effects cannot be depended on, since they act either too strongly, or too weakly, according to the State and Disposition of the Humours in the Stomach, we ought carefully to abstain from them, and may be very well without them in the *Materia Medica*.

Drastic Emetics are sometimes not only useful, but absolutely necessary for expelling Poisons, especially of the narcotic Kind; as also the infectious Particles which exhale from Patients labouring under contagious Disorders, and which, descending to the Stomach, there mix with the Juices, and, unless soon carry'd off, are convey'd into the Mass of Blood. In like manner, drastic Emetics are necessary for evacuating the corrupted and peccant Humours arising from the Commixture of heterogeneous Aliments, the Bile, and fermenting salival Humours, which, stagnating in the Stomach and Intestines, especially the Duodenum, become corrupted by their Continuance there, and frequently give Rise to Fevers of the slow, the quotidian, and the quartan Kind; as also to chronic Coughs, to violent Disorders of the Head, Melancholy, a Hemiplegia, and sometimes to an Epilepsy, or Apoplexy.

In Diseases arising from a thick Bile form'd, as it were, into a viscid Coagulum, and obstructing the biliary Ducts, such as the black and yellow Jaundice, a Cachexy, and some others, Emetics are sometimes used with Success, when other Medicines prove ineffectual; since they attenuate the bilious Sordes, which are the Causes of these Disorders.

In Anasarca, Leucophlegmatias, œdematous Swellings of the Parts, and a curable Ascites, Emetics, exhibited in a pretty large Dose, frequently carry off by Stool, but rarely by Vomit, the aqueous Serum from the Liver, and the Ducts and Glands of the Intestines, Mesentery, and Pancreas.

In all feverish Paroxysms, Inflammations of the Stomach, or Cases where it is affected with Spasms, as, for Instance, in Cordialgias, violent Anger, hysteric and hypochondriac Spasms, and where there is a Disposition to a Spitting of Blood, or an immoderate Discharge either by the Menses, or hæmorrhoidal Veins, as also in all Diseases arising from a Congestion of Humours to the Head, such as Apoplexies, Palsies, Vertigoes, violent Head-achs, a Loss of Hearing or Sight, Vomits are never to be used; nor are they to be exhibited to plethoric Patients, till the Plethora is removed by Venesection, nor to those whose Intestines are stuff'd with Fæces, till these are previously evacuated, and purged off.

'Tis proper, in order to make Emetics work more easily, to exhibit them always in a liquid Form, or in a sufficient Quantity of some moistening, relaxing, and pinguious Vehicle; for Vomiting not only requires a powerful Constriction of the Pylorus, and Bottom of the Stomach, but also a Relaxation of the superior Orifice of the Œsophagus.

During the Operation of Emetics, and after it is over, the Patient is carefully to guard against Cold, to abstain from cold Liquors, from the Sallies of Passion, from hot and stimulating Medicines, from acrid and salt Aliments, and rather to use such as are of a demulcent Nature, afford laudable Juices, and are of easy Digestion. It is of singular Use to drink a few Ounces of Asses Milk, if it can be had, about four Hours after the Operation of the Vomit is over. *Frederic. Hoffman. Medic. Rational. Systemat.*

Sydenham lays it down as a Rule, that, whenever a Vomit and Bleeding are necessary, Bleeding should always precede the Exhibition of an Emetic. The principal Vomit recommended by the last-quoted Author was the emetic Wine; and I much question whether we have improv'd his Method, by substituting Ipecacuanha in its stead, especially in Fevers, febrile Disorders, and the Small-pox. At least, our Ipecacuanha does not succeed so well with us, as his emetic Wine is represented to have done with him. If we consider with due Attention what has been said under the Article *Duodenum*, the Reasons for this Difference will be pretty obvious.

Alexander Trullian recommends Vomits above all Things in Tertians, and much more in Quartans, taken before the Fit; and of the latter he has cur'd the most inveterate by this Remedy alone. This is a Practice, which, *Freind* observes, is mention'd, tho' little insist'd upon, by the rest of the Antients; but

consonant

consonant to Reason, and of great Advantage, not only in these, but in many other Cases.

Dr. Harris, in his Dissertations, informs us, that antimonial Vomits are safe in the Heat of the Summer, but are very dangerous in the Cold of the Winter. The same Author, also, tells us, that white Vitriol is an excellent, mild, and safe Emetic, in a Dose of four Scruples. He also informs us, that, where Carduus and Asarabacca are thought too mild, Fox-glove, in Decoction, will answer the most violent Intentions, as an Emetic.

Dr. Cheyne, in all his Works, recommends Vomits as the most effectual Means of Relief in nervous Cases.

There is, or at least was very lately, a Man in *Cheshire*, commonly call'd the Vomiting, or Straw-hat Doctor, who render'd himself famous for exhibiting a particular Sort of Emetic, which he kept as a Secret. This Vomit has the Reputation of operating very soon, with great Ease, and good Effect.

I am inform'd, that his Vomit is the following Water; and my Authority for this is very good:

Take of the Leaves and Flowers of the common Meadow Crow-foot. Let them be distil'd in a common Alembic, in the same manner as common Simple Waters, as long as any Pungency remains in the Liquor. The distil'd Water is very hot and pungent, and requires lowering with common Water, till it may be drank. The Method of taking it is, to fill the Stomach first with about a Quart of warm Water; then give an Ounce of the Liquor, which in a few Minutes brings up the Water without any Violence. This is to be repeated, till the Patient has vomited sufficiently.

Common Salt is us'd to check the Operation of Emetics; which it will certainly do, and make them run off by Stool. Violent Vomitings are, also, stop'd by copious Draughts of warm diluting Fluids; by mild Oils; by Opiates, Aromatics; by grateful Acids, and corroborating Medicines, either taken internally, or apply'd externally to the Region of the Stomach.

EMETOCATHARTICUM. A Medicine which both vomits and purges.

EMETOLOGIA. From *ἔμετος*, a Vomit, and *λόγος*, Discourse. That Part of Medicine which treats of Emetics.

EMETOS, *ἔμετος*, from *ἐμίω*, to vomit. A Discharge of the Contents of the Stomach by Vomit. See **VOMITUS**.

EMEU, or **EME,** *Chuf.* *ΕΜΕΥ*, vulgo *Casparis*. The Name of a very large Bird of the Ostrich-kind, call'd *Caspar*, which is found in the *Molucca* Islands. The Fat of this is the only Part recommended in Medicine; which is said to be emollient, resolvent, nervous, and digestive.

EMIAI, *ἐμίαι*. *Galen* says, that this is an *Attic* Word, importing Vomitings.

EMINENTIA. Any Protuberance, or preternatural Tumor, is thus called.

EMISSARIUM, in Medicine, is any Orifice of the Body, either natural or morbid, out of which any thing is emitted.

EMMENAGOGA, *εμμηναγωγά*, from *εμμήνια*, the menstrual Discharges; and *ἄγω*, to draw, lead, or force. Emmenagogues, or Medicines which promote the menstrual Flux; tho' *Frederic Hoffman* seems to include, under this Name, those Remedies which cause a Discharge of Blood from the hæmorrhoidal Veins.

Among those which best and most commodiously answer this Intention, we may justly reckon the Roots of Birthwort, Zedoary, and the Five aperient Roots; the Herbs Mugwort, Calamint, Feverfew, Penny-royal, Baum, Savin, Polium Montanum, Rue, Marjoram, Rosemary, Wall-flowers, Saffron, Bay-berries, Juniper-berries; the Gums Bdellium, Myrrh, Galbanum, Opopanax, Sagapenum, and Amber: Among purgative Substances, Aloes, Rhubarb, and Bryony; as also Aromatics, and animal Salts; Castor, and chalybeate Preparations, which excel all others of the mineral and chymical Kind.

The more these Excretions are subservient to Life and Health, the more it were to be wish'd, with *Hippocrates*, that we had certain and efficacious Medicines for regulating them, and by that means preventing and curing several very terrible Disorders. But as these Excretions are principally the Work of Nature, and in Women appear, return, and end, at certain Periods; but are neither incident to all Men, nor so periodical as the Menstrues; and as a certain Redundance of Blood, together with a certain State of the Vessels of the Anus and Uterus, disposed to a spontaneous Evacuation, are requisite, in order to these Discharges; and as these Evacuations may be obstructed, or totally destroy'd, by various Causes; it must of course be a difficult Task to fall upon effectual Means of restoring these Evacuations when stop'd, or enlarging them when impaired; neither of which Ends can ever be obtain'd without knowing the Cause from which the Misfortune proceeds.

But, supposing that there is a Redundance of Blood, the principal Cause of this Evacuation; supposing, also, that the Vessels

of the Uterus and Anus are so dispos'd, that they may be distended by a large Quantity of Blood flowing to them, and be capable of discharging this Blood; yet, if the Excretions are not duly carried on, either on account of Obstructions, or spasmodic Constrictions of the small lateral Vessels of the Arteries; in consequence of which, the Blood does not circulate naturally; or on account of a Diminution of the spirituous Principle of the Blood, and the elastic contractile Force of the Heart and Arteries; then the above-enumerated Medicines afford the desired Relief: For the capillary Vessels are excellently open'd, and Obstructions remov'd, by the Five aperient Roots, Birthwort, Rhubarb, Bryony, and Wall-flowers, especially if exhibited by way of Decoction with some saline Stimulus, such as Borax. This Intention is also excellently answered by the Gums exhibited with Aloes, and other Purgatives, in the Form of Pills. The small and capillary Ducts, when spasmodically constricted, or preternaturally contracted, are excellently relax'd and open'd by Mugwort, which is of a demulcent Nature, as also by Yarrow, Saffron, and Castor. In order to restore the spirituous Principle of the Blood, strengthen the Solids, and confirm the Tone of the Fibres and Vessels, such Corroboratives are to be used, as operate by their fine volatile and oleous Salt; among which we may reckon all Aromatics, Myrrh, the Berries of the Bay and Juniper-trees, Rosemary, Penny-royal, Baum, Savory, Savin, Wall-flowers, Calamint, Amber, Filings of Steel, chalybeate Tinctures, and volatile oleous Salts.

When the Evacuation is impair'd, or render'd slow, by a Redundance of Blood, which too powerfully resists the Elasticity of the Vessels, the Emmenagogues already mention'd, especially those of the hotter Kind, are by no means to be exhibited; for by these the Blood is thrown into violent Commotions, and a Train of formidable Symptoms are frequently brought on. In this Case, therefore, Venesection in the Feet is to be recommended, since, by means of that alone, these salutary and critical Evacuations are often happily restored.

Nor are the Emmenagogues already enumerated proper, in Cases where there is a Deficiency of Blood, and laudable Juices, as in Persons recovering from the Shock of a Disease, those whose *Primæ Viæ* are stuffed with viscid Sordes, or those the villous Coats of whose Stomachs are lin'd with a viscid Mucus, and by that means Digestion and Chylification unduly carry'd on. In Cases of this Nature, the principal Intention of the Physician ought to be, not only the Regeneration of a good and laudable Blood by nutritive gelatinous Substances, and Broths, easily convertible into Blood and Juices; but also, if necessary, the Restitution of the Digestion and Elaboration of the Chyle by Emetics, gentle Purgatives of a saline aperient Nature, and bitter Stomachics.

These Evacuations are frequently stop'd by Obstructions and Infarctions of the vascular Substance of the Anus in Men, and the internal Part of the Uterus and Vagina in Women; in consequence of which they admit no Blood, however strongly propel'd to them. In these Cases forcing Medicines are not only superfluous, but pernicious, unless the indurated and infarcted Vessels are previously relax'd and soften'd by proper Medicines. And this Intention can neither be more speedily nor efficaciously answered, than by Baths, or Fomentations, or Vapour-baths, so contriv'd, that a Vessel, full of warm Water, impregnated with Mugwort, Penny-royal, and Chamomile-flowers, may be placed under the Abdomen in such a manner, that the Steam may ascend and penetrate into the Uterus, and adjacent Parts. This is to be done in a warm Room, with the Patient's Body well cover'd; and, in order to keep the Water warm, red-hot Flints are now-and-then to be put into it. Frictions of the Legs and Thighs with warm Cloths, especially after Bathing with sweet Water, also contribute very much to the Production of this Effect.

But in those Disorders arising from a Suppression, a Defect, or Irregularity of the Menstrues, or hæmorrhoidal Discharge, nothing is more certain, safe and effectual, than a prudent Use of mineral Waters, especially the mild *Caroline* Springs for internal, and those of *Torplitz* for external Use, since by these all the Intentions of Cure are excellently answered; for, by drinking the former of these Waters, the viscid Humours are attenuated and evacuated, and the Obstructions of the capillary Vessels remov'd, whilst by bathing in the *Torplitz* Waters, which are highly light, and destitute of a constricting earthy Principle, the Stricture of the Parts is remov'd, and the Vessels so enlarg'd, as readily to admit the Blood, and again discharge it.

As in Medicine 'tis a difficult Task to keep the menstrual Discharges in a due and natural Order, so 'tis still more difficult to manage the hæmorrhoidal, when a large Quantity of Blood attempts its Discharge by the Veins of the Anus, but does not find them dispos'd for its Evacuation; but the Discharges of this Kind, are, among all other Substances, most powerfully promoted by Pills prepared of Aloes, which by their highly subtil, resinous, and sulphureous Particles, not only excite a violent Orgasm in the whole Mass of Blood and Humours, but also by stimulating the Coats of the Colon and Rectum, by their tenacious, viscid, and resinous Parts, excite a greater Afflux

of Blood to these Parts: Yet when the Blood, after it has arrived here, cannot make its Way through the Vessels, it partly protrudes them, like so many Tubercles, accompanied with Pain; and partly, stagnating between the nervous Coats of the Intestines, and pressing them, produces violent Inflammations, Spasms, and other terrible Disorders of the Abdomen. *Frederic Hoffman.*

EMMENIA, ἐμμήνια, from μῆν, a Month. The menstrual Discharges.

EMMOTOS, ἐμμοτος, from μοτός, Lint. In *Hippocrates*, it is an Epithet for Persons, Parts of the Body, or Disorders, which require the Introduction of Lint for their Cure.

EMODIA. A barbarous Word, importing a Stupor of the Teeth.

EMOLLIENTIA. Emollient or softening Remedies. See ALTERANTIA.

EMOTIO. This Word is us'd with respect to the Mind, and then imports a Delirium; or relative to some Bone, and then implies Luxation.

EMPASMA, ἐμπασμα, from πᾶνω, to sprinkle upon. The same as CATAPASMA, or DIAPASMA. See CATAPASMA.

EMPEIRIA, ἐμπειρία, from πείρω, to try. Experience.

EMPEROS, ἐμπηρος, the same as πηρὸς, mutilated.

EMPETRUM.

The Characters are,

It has the Leaves and Appearance of *Heath*; the Flower is Male, has no Petals, and consists of Stamina; the Fruit, which grows in a different Part of the Plant, is like a Berry, and full of hard stony Seeds.

Boerhaave mentions two Species of this Plant; which are,

1. Empetrum; montanum; fructu nigro, *T. 579. Erica, baccifera, procumbens nigra*, C. B. P. 486. *Erica, baccifera, Matthioli*, J. B. 1. 526. Lugd. 188. *Erica, Coris folio*, 11. Clus. H. 45. BLACK-BERRY'D HEATH, CROW-BERRIES, OR CRAKE-BERRIES.

2. Empetrum; Lusitanicum; fructu albo, *T. 579. Erica, erecta, baccis candidis*, C. B. P. 486. *Erica, baccifera, Lusitanica*, T. B. 1. 528. *Erica, Coris folio*, 10. Clus. H. 45. *Erica*, 7. Clus. Lugd. 190. H. *Boerb. Ind. alt. Plant. Vol. 2. p. 173.*

Besides the two foregoing Species of *Empetrum*, *Dale* mentions a third:

Empetrum, Offic. *Thymelæa foliis Kali lamuginosis, fassis*, C. B. Pin. 463. Tourn. Inst. 594. Elem. Bot. 467, Raii Hist. 2. 589. Jonsl. Dendr. 236. *Sanamunda secunda Clusii*, Ger. Emac. 1595. J. B. 1. 594. Chab. 48. *Sanamunda altera Clusii*, Park. Theat. 203. SEA-HEATH SPURGE. *Dale.*

It grows spontaneously on the Sea-coasts of *Andalusia*, and flowers in *February*. The Root is in Use; a Dram of which, taken in a Decoction of Chiches, is a potent Cathartic. About *Gibraltar* it is call'd *Burhalaga*, and used only for heating of Ovens. *Raii Hist. Plant.*

EMPHRACTICA, ἐμπεκτικά, from ἐπέω, to obstruct. Obstructing Topics, such as, when applied to the Body, adhere, and stop the Pores.

EMPHRAGMA, ἐμπεραγμα, of the same Derivation as the preceding Word. An Impediment, or Obstruction. Thus some Parts of a Child, presenting in an unnatural Posture, are said, by *Hippocrates*, to be an *Emphragma*, that is, to obstruct the Birth, in his *Treatise, de Septimoftri Partu.*

EMPHRAXIS, ἐμπεραξις, of the same Derivation as EMPHRACTICA. An Obstruction.

EMPHYSEMA, ἐμψύσμα, from φυσάω, to inflate. Any flatulent Tumor. It is generally taken for a soft Tumor, arising from Air, contain'd in the Cells of the *Membrana Cellulosa*.

See that Part of the Article CAPUT, which treats of Wounds of the Head. See also CELLULOSA MEMBRANA.

In *Hippocrates* it imports an Inflation of the Belly; and sometimes a Tumor in general.

It is surprising to what a Degree the cellular Membrane will be inflated by the Air retain'd and rarefy'd in its Cells. To this Purpose, Mr. *Mery* gives a very remarkable History in the Memoirs of the *Royal Academy of Sciences* for 1713. which the Curious may consult.

EMPIRICA SECTA. The Empiric Sect. See the PREFACE.

Empiricus is deriv'd from πείρω, to experience.

EMPIASTICA, ἐμπαστικά, from ἐμπάω, to obstruct, or spread upon. The same as EMPHRACTICA.

EMPLASTRUM, ἐμπλαστος, of the same Derivation as the preceding Word. A Plaster.

No Part of the Apparatus for Dressing is of more Importance than Plaisters; the Nature of which is so well known, that it would be ridiculous to attempt a Definition of them. There are various, and almost innumerable Kinds of Plaisters; the most considerable of which, together with their Composition and Preparation, are found in the several Dispensatories; but especially in the *Pharmacopæia Augustana*, the *London Dispensatory*, that of *Brandenburg*, and *Leмери's Pharmacopæia*.

Univerfelle. Most of these Plaisters are spread upon Linen Cloth, Leather, or Silk, according to the different Conditions of Wounds, and the various States of Patients. When Plaisters are to be applied to hairy Parts of the Body, those Parts are previously to be shav'd, that the Plaster may adhere more firmly, and be removed more easily, and with less Pain to the Patient. But that they may be still more commodiously apply'd, their Form is to be adapted to that of the particular Part, for whose Relief they are intended. Thus some Plaisters ought to be round, others square, others triangular, others oval or elliptical, others in the form of a Crescent, others shap'd like the Letter T, and others in the Form of a *Maltefe Crois*, as in *Tab. 23. Fig. 1, 2, 3, 4, 5, 6, 7, 8.* Others have either one or both of their Sides slit, according to the Intention proposed, as in *Fig. 9. and 10.* To these we may add that kind of Plaster, which being perforated in the Middle, is destin'd for Fractures, accompanied with adjacent Wounds; that, by this means, the Wounds may be commodiously cleansed and dress'd without removing the Plaster, as in *Fig. 11. 12. 13.* However various the Forms of Plaisters may be, as is obvious from what has been said, yet such as are either square or round, are most generally used; since there are few Parts of the human Body to which these may not be commodiously apply'd, especially if their Edges are slit with a Pair of Scissars.

The Bulk, as well as the Figure, of Plaisters, is various; for their Largeness ought always to correspond to the Wound, or Part affected. As for the Use of Plaisters, it is found to be very various and extensive; for they not only serve to retain Balsams, Ointments, Lint, Tents, and other Applications, to Wounds, but also contribute very effectually to generate Pus, to digest and mature Tumors, to conglutinate and cure Wounds, to unite fractur'd Bones, to heal Burns, to alleviate Pains, and to corroborate such Parts of the Body as are weak and infirm.

It is to be remark'd; that the best way of giving a Plaster a good Consistence, is a Prejudice to many Intentions; and that is done with Litharge, or Minium, and Oil; for when these are boiled, so as to incorporate, they make a Body very suitable for this Form; but then they are opposite in Virtues to the warmer Gums, which are frequently mix'd with them. The other Ways, therefore, of giving a Consistence to this Form, either with Wax, Resin, or Pitch, may be preferable as to Intention or Efficacy; but these also have their Inconveniences in other respects; for those Plaisters which take in much Wax, are difficult to spread; because, when warm, they are not glutinous enough to stick well. Resin likewise is troublesome to spread, and, where it abounds, sticks too much; and Pitch of any kind, especially when join'd with Turpentine, though made into an hard Consistence, yet will not hold its Form in Rolls, but run flat, as is commonly observ'd in the *Emplastrum Cephalicum*, and *Adhæsivum*; for which Reason they are frequently confin'd in Bladders.

In the Prescription of extemporaneous Plaisters, the greatest Regard is to be had to that particular Consistence which the Part can most conveniently bear, whereupon the Application is to be made. Thus Plaisters to the Breast and Stomach, especially in the Intentions of Emollients or Discutients, should be yielding and soft, as in the officinal *Emplastrum Stomachicum magistrale*; but to the Loins, or any of the Limbs, where warm Discutients and Strengtheners are to be applied, an higher, and more adhesive Consistence is to be sought for. The emollient Plaisters likewise should be laid on thick, and frequently repeated, if the Symptoms continue; because their better Parts are soon spent. Discutients also, applied to hard Tumors, require Repetition; but the Strengtheners, which are on purpose contriv'd of a strong adhesive Consistence, are permitted to lie on, till they grow dry, and come off spontaneously. In some flatulent Tumors, where a Plaster alone does not prevail, they are at Intervals taken off, and discutient Fomentations or Lotions made use of; such as are composed of Bitters, Carminatives, and take in lixivial Salts, or alkaline Spirits.

There are a great Number of Plaisters describ'd in the Dispensatories above-quoted. Those in the *London Dispensatory* are the following:

EMPLASTRUM ADHÆSIVUM: *The sticking Plaster.*

Take of the simple Diachylon, and Diachalcitis, of each one Pound; of Burgundy Pitch, six Ounces; of Turpentine, one Ounce; of Gum Sarcocolla, four Ounces; Make into a Plaster. *S. A.*

The College have taken this from *Bates*, with some little Variations in the Quantities. The Pitch, and Gum Sarcocolla, must be very carefully strained, or else the Plaster will be almost useless. There are, indeed, many Compositions of this kind in Practice amongst our Surgeons, who vary them at their own Discretion; and most of them omit the Sarcocolla, as giving more Trouble to make it smooth, than its Qualities are judg'd to deserve.

EMPLASTRUM

EMPLASTRUM EX AMMONIACO. See AMMONIACUM.

EMPLASTRUM E BACCIS LAURI: *Plaster of Bay-berries.*

Take of Bay-berries, having their Husks clear'd off, two Ounces; of Frankincense, Mastich, and Myrrh, of each half a Dram; of Cypress, Costus, yellow Wax, Turpentine, and Oil of Bays, each one Ounce; of despumated Honey, just made warm, four Ounces. Powder together the Cypress, Costus, and Bay-berries, to be mixed with the Honey: Let the Frankincense, Mastich, and Myrrh, be separately reduced, and mixed with the Honey; and then add the Oil of Bays, the Turpentine, and Wax, all melted together, so as to make a Plaster. *S. A.*

EMPLASTRUM DE BETONICA. See BETONICA.

EMPLASTRUM CÆSARIS: *Cæsar's Plaster.*

Take of red Roses, one Ounce and a Half; of Bistort-root, of Cypress-nuts, of all the Sanders, of Mint, and Coriander-seeds, of each three Drams; of Mastich, half an Ounce; of Hypocystis, Acacia, Dragon's Blood, sealed Earth, true Bole, and red Coral, of each two Drams; of Turpentine, wash'd in Plantain-water, four Ounces; of Oil of Roses, three Ounces; of white Wax, twelve Ounces; of Resin of the Pine-tree, ten Ounces; of Pitch, six Ounces; of the Juices of Plantain, Housleek, and Orpine, of each one Ounce. Let the Wax, Resin, and Pitch, be melted together; then add the Turpentine and Oil, the Hypocystis and Acacia, dissolved in the said Juices; and, lastly, the Powders, so that the Whole may be made into a Plaster. *S. A.*

EMPLASTRUM CEPHALICUM: *Cephalic Plaster.*

Take of transparent Resin, two Ounces; of black Pitch, one Ounce; of Labdanum, Turpentine, Bean and bitter Vetch-flowers, and Pigeons-dung, of each half an Ounce; of Myrrh, and Mastich, of each one Dram and an half; of Gum, Juniper, and Nutmegs, of each two Drams. Let the Myrrh and Labdanum be dissolved in a warm Mortar; and, with an Addition of the rest of the Ingredients, make into a Plaster. *S. A.* If it be desired stronger, add the Powders of Euphorbium, Pellitory, and black Pepper, of each two Scruples.

This is much used in common Prescription, to apply to the Feet, as well as the Head.

EMPLASTRUM E CICUTA CUM AMMONIACO. See CICUTA.

EMPLASTRUM E CYMINO. See CUMINUM.

EMPLASTRUM DIACHALCITEOS: *Compound Plaster of Chalcitis.*

Take of old unsalted Hogs-lard, cleansed from its Membranes, two Pounds; of old Oil of Olives, of the Litharge of Gold, powder'd and sifted, of each three Pounds; of white Vitriol, calcin'd and powder'd, four Ounces. Let the Litharge, Lard, and Oil, be boiled together, over a gentle Fire, with a little Plantain-water, and continually stir'd with a Spatula, to the Consistence of an Emplaster; and when this is taken off the Fire, stir in the Vitriol, so as to make it into a Mass. *S. A.*

EMPLASTRUM DIASULPHURIS. See DIASULPHURIS.

EMPLASTRUM EPISPASTICUM PRIMUM: *The first Blistering-plaster.*

Take of the simple Melilot-plaster, one Pound and a half; of Cantharides, in fine Powder, twelve Ounces; of the Seeds of Bishops-weed, one Ounce and a half; of Vinegar, half a Pint; and make into a Plaster. *S. A.*

EMPLASTRUM EPISPASTICUM SECUNDUM: *The second Blistering-plaster.*

Take of Burgundy Pitch, twelve Ounces; of Venice Turpentine, four Ounces; of the Powder of Cantharides, six Ounces: Mix, and make them into a Plaster. *S. A.*

EMPLASTRUM GRISEUM DE LAPIDE CALAMINARIS: *The Calamine-plaster.*

Take of prepar'd Calamine, one Ounce; of Litharge, two Ounces; of Cerufs, half an Ounce; of Tutty, one Dram; of Turpentine, six Drams; of white Wax, one Ounce and an half; of Sheep's-suet, two Ounces; of Frankincense, five Drams; of Mastich, three Drams; of Myrrh, two Drams; of Camphire, half a Dram. Let the Turpentine, Wax, and Suet, be all melted together; then put in the Frankincense, Mastich, and Myrrh, in Powder; and after they are very well mix'd, add the Calamine, Litharge, Cerufs, and Tutty, also in fine Powder. Lastly, before they are quite cold, put in the Camphire, dissolv'd in a little Spirit of Wine; and make all into a Plaster.

This is recommended for a great Healer of Ulcers.

EMPLASTRUM AD HERNIAM: *Plaster against Ruptures.*

Take of Galls, Cypress-nuts, Pomegranate-peel, Balaustines, Acacia, the Seeds of Plantain, Fleawort, and Cressles, Acorn-cups, roasted Beans, long and round Birthwort and Myrtles, of each half an Ounce. Let all these be powder'd and macerated four Days in Vinegar of Roses, and afterwards dried: Then take of the greater and lesser Comfrey; of Horse-tail, Woad, Ceterach, Roots of Osmund-royal, and Fern, of each one Ounce; of Frankincense, Myrrh, and Mastich, of each two Ounces; of Armenian Bole, wash'd in Vinegar; of prepar'd Calamine, Litharge of Gold, and Dragon's-blood, of each three Ounces; of Pitch, two Pounds; of Turpentine, a sufficient Quantity to make the Whole into an Emplaster. *S. A.*

This is not only intended for what is signified by its Title, but for the strengthening any weak Part.

EMPLASTRUM DE MASTICHE: *The Mastich-plaster.*

Take of Mastich, two Ounces; of Armenian Bole, wash'd in red Wine, one Ounce and an half; of red Roses, six Drams; the Raspings of Ivory, and Myrtle-berries, of each half an Ounce; of Turpentine, Colophony, Tacamahaca, and Labdanum, of each two Ounces; of yellow Wax, half a Pound; of the Oil of Myrtles, four Ounces. Let those Things be powder'd apart, which require it; then melt the Wax in the Oil, and to them, when taken off the Fire, add the Turpentine; afterwards mix the Bole, Roses, and Ivory, in Powder, and last of all the Mastich; then briskly stir them about in a warm Mortar, so as to bring them to a Plaster. *S. A.*

EMPLASTRUM DE MELILOTO SIMPLEX: *Simple Melilot-plaster.*

Take of fresh Resin, eight Pounds; of yellow Wax, four Pounds; of Sheep's-suet, two Pounds: After these are melted together, put in five Pounds of green Melilot, cut small; and make into a Plaster. *S. A.*

This is but a modern Contrivance, and is now greatly in Use, principally for dressing Blisters.

EMPLASTRUM MERCURIALE: *The Mercurial Plaster.*

Take of Quicksilver, which hath been strained through Leather, eight Ounces; of liquid Storax, one Ounce and an half; of Venice Turpentine, one Ounce. Let the Whole be work'd together in a Mortar, to an entire Incorporation of the Mercury: Then take of the Diachalcitis-plaster, one Pound; of Gum Ammoniac, half a Pound. Melt them, and put them into a Mortar, and work them about until cold, and become a Plaster.

EMPLASTRUM DE MINIO: *Red-lead Plaster.*

Take of Red-lead, nine Ounces; of the Oil of red Roses, one Pound and an half; of White-wine Vinegar, six Ounces; and boil them to a perfect Consistence of a Plaster.

EMPLASTRUM E MUCILAGINIBUS. See DIACHYLON COMPOSITUM.

EMPLASTRUM NIGRUM: *The Black Plaster.*

Take of white Cerufs, one Pound; of Linseed Oil, two Pounds; and boil them to a sufficient Consistence, stirring all the while with a Spatula.

EMPLASTRUM A NOSTRATIBUS FLOS UNGUENTORUM DICTUM: *A Plaster call'd, in our Country, The Flower of Ointments.*

Take of common Resin, Resin of the Pine-tree, yellow Wax, Sheep's-suet, of each half a Pound; of Olibanum, four Ounces; of Turpentine, two Ounces and an half; of Myrrh and Mastich, of each one Ounce; of Camphire, two Drams; of White-wine, half a Pound: Boil them together into a Plaster.

It is pretty much in Use amongst our Surgeons for a warm Suppurative.

EMPLASTRUM OPODELDOC: *Opodeldoc-plaster.*

Take of Bdellium, Ammoniacum, Galbanum, Sagapenum, and Opopanax, of each two Ounces: Melt these together, and add to them half a Pound of *Strasburgh* Turpentine, four Ounces of Oil of Bays, two Ounces of Amber; and stir them together, over a gentle Fire. Take of Litharge, one Pound; Calamine, one Pound and an half; of Oil of Olives, two Pounds; of Linseed-oil, one Pound: Boil these likewise over a gentle Fire, stirring all the while with a Spatula; and when these are all mixed, add of yellow Wax, and Colophony, of each one Pound; and, after these are melted and mixed with the preceding, boil again, and stir, until all are incorporated: Then gradually put in of the astringent Saffron of Mars, Loadstone, red Colcothar,

Colcothar, Olibanum, Myrrh, Amber, Mastick, Sarcocolla, Dragon's-blood, and Camphire, of each one Ounce; of round Birthwort-root, two Ounces; and let them stand over the Fire; till the Whole hath obtained a due Consistence.

This Composition hath been greatly extol'd heretofore, and particularly by *Paracelsus*, who frequently mentions it in his chyrurgical Writings.

EMPLASTRUM OXYCROCEUM. See **CROCUS**.

EMPLASTRUM DE SAPONE: *Soap-plaister.*

Take of common Oil, two Pounds; of red Lead, one Pound. Let them be put upon a Fire, and briskly stirred about a good while, until they are very well mixed; then take the Mixture off the Fire, and before it is quite cold, stir in of Venice Soap, cut into Slices, half a Pound; and make into a Plaister. *S. A.*

This is much in Esteem amongst some Persons; principally, for discussing gouty Tumours, and the Juices stagnating after Strains.

EMPLASTRUM STICTICUM: *Stictic Plaister.*

Take of the Oil of Olives, six Ounces; of yellow Wax, one Ounce and an half; of ground Litharge, four Ounces and an half; of Gum Ammoniacum, and Bdellium, of each half an Ounce; of Galbanum, six Ounces; of Opopanax, Oil of Bays, Calamine, both the Birthworts, Myrrh, and Frankincense, of each two Drams; and of fine Turpentine, one Ounce: Let the Oil and Litharge be boil'd and incorporated together, stirring with a Spatula, till it ceases to stick to the Fingers: Then, removing it off the Fire, melt in it the Wax; next, the Turpentine mix'd with the Gums; and, last of all, the Powders: When all is cold, put in the Frankincense, and Oil of Bays, so as to make the Whole into a Plaister. *S. A.*

EMPLASTRUM STOMACHICUM MAGISTRALE:

The Magisterial Stomach-plaister.

Take of Mint, Wormwood, Stoechas, and Bays, of each one Dram; of Marjoram, red Roses, and yellow Sanders, of each two Drams; of Calamus aromaticus, Aloeswood, Flowers of Lavender, Nutmegs, Cubebs, Galangal, long Pepper, and Mace, of each one Dram; of Mastick, three Drams; of Cloves, two Drams and an half; of the Oils of Mint, one Ounce and an half; of Nard, one Ounce; of Spike, one Dram; of Resin, and Wax, of each four Ounces; of Labdanum, three Ounces; of strain'd Storax, half an Ounce: Make into a Plaister. *S. A.*

This is now much in Esteem to strengthen the Stomach, inasmuch that there are hardly any Shops without it.

EMPLASTRUM TONSORIS.

Take of hard Pitch, two Pounds; of Wax, one Pound; of Resin of the Pine-tree, half a Pound; of Fenugreek-flower, and the Powder of black Chameleon, and Bryony-root, of each four Ounces; of Cumin-seeds finely powder'd, two Ounces: Make into a Plaister. *S. A.*

Lemery describes a great Number of Plaisters in his *Pharmacopée Universelle*. Of these I shall only describe the *Emplastrum Abbatis de Grace*, and the *Emplastrum Andreæ a Cruce*, which I have frequently mention'd.

EMPLASTRUM ABBATIS DE GRACE:

Take of the Oil of Roses, sixteen Ounces; of the depurated Juice of pale Roses, and prepar'd Litharge of Gold, each nine Ounces, and of prepar'd Venetian Cerufs, two Ounces: Boil to the Consistence of a Plaister, and then add four Ounces of yellow Wax.

The Litharge, the Cerufs, the Oil of Roses, and the depurated Juice of pale Roses, must be boil'd together in the same Vessel, continually stirring them with a wooden Spatula, till they assume the Consistence of a Plaister. Then cut the Wax small, and let it melt along with them. When the Mixture is almost cold, it is to be made up in Rolls.

This Plaister is proper for drying Wounds and Ulcers, and is frequently us'd, by way of Plaister, in applying potential Cauterics.

EMPLASTRUM ANDRÆ A CRUCE.

Take of Rosin, two Pounds; Gum Elemi, four Ounces; Venice Turpentine, and Oil of Bays, of each two Ounces: Make them into a Plaister, according to Art.

These Drugs must be all melted together, and passed through a Linen Cloth to separate the Fæces; and by this means we shall have a Plaister fit to be reserved for Use.

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It is serviceable in Wounds of the Breast, and other Parts; it cleanses, conglutinates, and consolidates; it is good for Contusions, Fractures, and Dislocations.

This Plaister must be kept in a Pot; for, if it be form'd into Rolls, it runs. *Lemery, Pharmacopée Universelle.*

EMPLATTOMENA, ἐμπλαττωμένα. The same as **EMPLASTICA**.

EMPNEUMATOSIS, ἐμπνεύματος, from ἐμπνέω, to blow into, or inflate. An Inflation of the Stomach; according to the Author of the *Definitiones Med.* But it is applied to other Parts, as the Womb, by *Paulus Ægineta*, in *Lib. 3. Cap. 70.*

EMPRION, ἐμπίων, from πείω, to saw. Serrated, or saw-like. A Sort of Pulse mentioned by *Galen*. In this the Artery is distended in one Part more than in another, and feels indented; or like a Saw. It is said to attend all inconsiderable Inflammations.

EMPROSTHOTONOS, ἐμπροσθότονος, from ἐμπροσθεν, forwards, and τείνω, to bend. A Species of Convulsion of the Muscles of the Neck. According to *Celsus*, *Lib. 4. Cap. 3.* an *Emprosthotos* is a convulsive Stiffness of the Neck, when the Chin is immoveably fix'd on the Breast: An *Opiisthotonos*, when the Head is bent backwards, in such a Manner as that the Head rests on the Scapulæ: And a *Tetanus*, when the Head is upright and immoveable.

EMPSYCHOSIS, ἐμψυχωσις, from ψυχή, the Soul. The Union of the Soul with the Body: Animation.

EMPTYSIS, ἐμπύσις, from πύω, to spit out. *Aretæus, Acut. Lib. 2. Cap. 2.* limits the Signification of this Word to a Discharge of Blood by Spitting, when it comes only from the Mouth, Fauces, and Parts adjacent.

EMPYEMA, ἐμπύημα or ἐμπύσις, from ἐν, within, and πύον, Pus or Matter.

Aretæus, Lib. 1. de Caus. & Sign. Morb. Chron. Cap. 9. says, "that they who are affected with purulent Abscesses in the Cavities of the Body, whether within the Thorax, or below the Diaphragm, if the Pus be discharged upwards, are called ἐμπύοι, *Empyoi*; if downwards, ἀποσμηματίαι, *Apostemmatiai*." And, *ibid. Cap. 8.* he tells us, that "If there be a Suppuration of the Thorax, or Ribs, and the Pus be discharged through the Lungs, it is called ἐμπύον."

"Those who have a Collection of Pus, says *Galen, Com. 3. in Prognost. Text. 60.* "whether it be all within the Body, or contain'd in some Part affected with an Inflammation, either before or after an Eruption, we call ἐμπύοι, *Empyoi* (afflicted with a Purulency or Suppuration)." But our Physicians bestow that Name principally on those who are affected with a Suppuration in the Thorax and Lungs. In this Case, the Pus, after an Eruption, is contained between the Thorax and the Lungs; and, unless it be speedily expectorated, the Patient dies of a Consumption, with a slow Fever, which is always exasperated in the Night. The Antients called a Collection of Pus, in any Part of the Body, *Empyema*; and suppurating Medicines, were, for that Reason, by some call'd *Empyemata*, by others, *Diapyemata*. Some will have those who are affected with a Collection of Pus in any one of the Viscera, to be called *Empyoi*; others, as we said, will allow that Name to none but those who have a Settlement of Pus between the Thorax and the Lungs; for the Disease is form'd in a Place affected with an Inflammation, and of an Effusion of Pus within the Thorax, from the inflam'd Part. Pus is generated whenever the Matter of an Inflammation is not resolved, and carried off, but there settling, is, by Heat, concocted and converted into Pus. *Hippocrates, 7 Aph. 38.* thus expresses it; "Desfluxions on the Thorax [τὴν ἀνω κοιλίαν] come to a Suppuration in twenty Days." And, more clearly, *5 Aph. 8.* where he says, that "In those who labour under a Pleurisy, if the peccant Matter be not discharg'd in fourteen Days, it turns to a Suppuration." For pleuritic Pains, if not remov'd, either by Expectoration, or Purging, or Bleeding, or Diet, or other Medicines, excite a Suppuration, or suffocate the Patient. This is well express'd by *Galen, in Prognost. Com. 2. T. 55.* "All Pains, he says, affecting the Thorax, at the Seat of the Lungs, which will not yield to Medicines, if nothing else afflicts the Patient, and no other destructive Symptom appears, give Reason to expect a Suppuration." The Inflammation, then, being suppurated, and its Humours converted into Pus, unless this be discharged by spitting, there ensues a Rupture of the Impostume, and an Effusion of the Pus into the Cavity of the Thorax and Lungs, under which Circumstance the Patients are truly and properly *Empyoi*. By this Pus they are either suffocated, or freed from it by a free Expectoration in the Term of forty Days, as we are taught by *Hippocrates, 5 Aph. 15.* "Whoever, says he, become *Empyetic* from a Pleurisy, if cleans'd in forty Days from the Time of the Rupture, recover; otherwise they fall into a Consumption." On which *Galen*, commenting, says, "Unless the Pus be all discharged, by Expectoration, in that Term of Days, it putrefies, and in that Quality corrodes the Lungs, and induces a Consumption:" Which is an Extenuation of

the whole Body, because of the incurable Ulcers of the Lungs, and a Leanness, in Conjunction with a slow Fever; which Affection the *Greeks*, and especially the *Athenians*, as *Galen*, *Com. 7. Aph. 16.* informs us, properly call'd *ἰσθὴν*, *Phthoe*, and *Hippocrates*, *ἰσθίς*, *Phthisis*. When this Disease is come to its Extremity, the Case is desperate, the Hair falls off, the Belly suffers under a Flux, from mere Imbecillity of the Faculty, as *Galen* expresses it, and the Spit is retain'd; for, however extenuated, the Patients live, as long as they are able to clear their Lungs by coughing and spitting; but by the Matter, which should be expectorated, remaining within, the Passages of Respiration are obstructed, and the Sick, by that means, suffocated.

In order to prognosticate with more Clearness and Certainty from an Empyema, or to predict the Fate of *Empyi*, or those who are affected with Pus from the Rupture of an Impostumation in the Thorax, we are to inquire, first, whether the Suppuration proceeds from a Pleurisy, Peripneumony, or Quinsy; secondly, what are the Signs by which we distinguish them; thirdly, we are to inform ourselves when the Rupture happens; and, lastly, we are to treat of those who recover, as well as those who die, and the fatal Signs attending their Disorder.

When we are to expect an Empyema, we are taught by *Hippocrates*, in the following Words, *Prognostic*. "Whatever Pain affects these Parts [*the Region of the Thorax*], and cannot be removed, either by Expectoration, or Purging, or Bleeding, or Medicines, or a Regimen of Diet, must be expected to produce a Suppuration." But as *Hippocrates*, *2 Aph. 47.* has told us, "that Pains and Fevers are more incident at a time when Pus is generating, than after it is generated, they must of Necessity be increas'd, as Matters tend to the Suppuration." The same Author, in the Book before-quoted, gives us a Direction to "compute the Beginning of an Empyema from the Day in which the Patient was taken with a Fever or Rigor, and, instead of a Pain, complain'd of a Weight in the Place which was before affected with Pain; for thus it happens about the Beginning of a Suppuration; and from this time you are to expect a Rupture of the Suppuration, at the End of the before-mentioned Terms." *Galen*, in his Comment on this Place, says, that the Signs of a Suppuration are a Weight instead of a Pain, a Rigor, or Shivering, and a remarkable Exacerbation of the Fever. Besides a Sense of Weight, *Hippocrates* reckons a Heat in the Sides, or in one of them, if the Suppuration be only in one Side, as a Symptom; for thus he proceeds, *ibid.* "If the Suppuration be only in one Side, it will be proper to cause the Patient to turn, and to examine him, whether he has a Pain in one Side, and whether it be hotter than the other; and, when he lies on his sound Side, it is fit to ask him, whether he has a Sense of a Weight pressing upon him; for, if so, the Suppuration lies in the Side, which ever it be, where the Pain is felt." A Suppuration, then, is discover'd by these Signs, which are, as we said, a Rigor or Shivering; which is excited, as *Galen* supposes, from the Acrimony of the Pus infesting the inflam'd Parts, an Increase of the Fever, and a Sense of a Weight in the Sides, or in one of them, if the Collection of Pus be only in one Side: I add to these Signs the Sense of a Heat in the Sides, or one Side, if the Pus be only collected in that Side. If this Increase and Collection of Pus, concocted by Nature, after its Eruption, happens to be expectorated by coughing, the *Empyi* recover; but if the Pus can no way be discharged, through Want of Strength, the Patient is either suffocated, or dies of a Consumption. Hence we are told by *Hippocrates*, in the *Prognostics*, that "The Disease is more fatal to old Persons than young; " because, as *Galen* says, "Old-age is infirm, and great Strength of Nature is requir'd for Discharges by coughing and spitting; and none can recover without a very copious Expectoration of Pus, by means of a Cough." *Galen, de Loc. affect. lib. 5. Cap. 3.* tells us of *Empyi*, or Persons affected with a Collection of Pus within the Thorax, who have expectorated, or spit out, the Quantity of fifteen Heminae, or half Pints, of Pus, and recover'd. Those, therefore, who spit plentifully, escape; which is the Import of what *Hippocrates* says, *5 Aph. 15.* "They who become *Empyi*, after a Pleurisy, it cleans'd by Expectoration in forty Days from the time of the Rupture of the Abscess, are freed from the Disease." When Expectoration cannot be effected, the Patient is sometimes suffocated through the gross and viscous Quality of the Pus, and the Denseness, or close Contexture, of the Membrane surrounding the Lungs, and the Weakness of the Faculty, which is known by a Respiration, in which the whole Thorax is elevated, and yet nothing is expectorated. *Galen, de Loc. affect. lib. 4. Cap. 7.* tells us, "that they who are *Empyi*, on account of a Collection of Pus between the Thorax and Lungs, and elevate the whole Thorax in Respiration, do the same thro' Weakness, and Inability to discharge the Pus." If the Patient escapes Suppuration, he dies of a Consumption, as *Galen* observes, walling away under a slow Fever, the Heat

constantly increasing more or less in the Night, and the retain'd Pus putrifying within, and corroding and ulcerating the Lungs.

The Signs of a Consumption succeeding an Empyema are thus express'd by *Hippocrates, Prognost.* "First, the Fever never leaves the Patient, but is more moderate in the Day-time, and exasperated at Night, with copious Sweats, a Cough, and much Desire to expectorate, but to little Purpose. These Symptoms are attended with Hollowness of the Eyes, Redness of the Cheeks, and Crookedness of the Nails of the Fingers; there is, also, a Sense of Heat of the Fingers, and especially at the Tops; the Feet swell, the Appetite is lost, and there is an Eruption of Pustules about the Body." *Galen*, commenting on this Description, says, that the Fever never ceases, because the solid Parts of the Body are heated; for which Reason, also, the Fever keeps one constant Tenor, retaining a Heat like Chalk or Lime-stone, gentle to the Touch; and this Heat, which is the proper Diagnostic of a hectic Fever, is increas'd after Eating and Drinking, in like manner as it is in Chalk upon Affusion of Water; and the Flesh becomes much hotter to the Touch. The continual Sweating is owing to the Weakness of the Patient, and the Dissipation of the distributed Aliment. The Patient has an Inclination to cough, and strives to expectorate, but discharges nothing worth Consideration, on account of the Grossness and Viscidity of the Pus, the Density of the Membrane inclosing the Lungs, and the Weakness of the Faculty. Hollowness of the Eyes, which is a Symptom common to all long Fevers, is from Driness, and Redness of the Cheeks from the Heat of the Lungs and the Cough; both which heat the Face, and the whole Head, because the Vapours, which arise from the Defluxion oppressing the Lungs, ascend thither in great Redundance. The Nails are crooked, because the Flesh, which should support them on each Side, is consum'd. The Fingers, as in all hectic Fevers, are remarkably hot, and appear to be so at the Inside of the Tops, as being more carnosous, and abounding with Humour. At length the Feet swell, the Extinction of the natural Heat commencing in those Parts which are farthest distant from its Original. The Appetite is lost, that, as well as all other Faculties, being under a Decay; and there is an Eruption of Pustules from an Effusion of corroding Ichor upon the Skin: Thus far *Galen*. These, then, are the Signs of a Consumption from an Empyema, under which the Patients live as long as they can spit, and discharge the Pus. *7 Aph. 16.* One thing worthy of Remark, in relation to the Spitting, and which is observ'd by *Galen*, in the third of the *Epidemics*, in desperate Consumptions, is, that no Sign of Concoction appears. The Spitting, at last, is suppress'd, and a Looseness succeeds, with a Swelling of the Feet, and other Symptoms; which convinces the Patients themselves, that their Case is desperate. In the first place, then, the peccant Humour, which is the Cause of the Pleurisy, or Peripneumony, being not discharg'd, putrefies, and is changed into Pus; then breaks, and is expectorated by coughing. But this Collection of Pus, in the Thorax and the Lungs, makes its Eruption in a determinate Time, which is generally twenty Days, and sometimes sooner or later. The prognostic Signs of an Eruption are describ'd by *Hippocrates, Lib. Prognost.* in the following Manner: "Whether an Empyema will break sooner, or later, may be thus known: If there be Pain at the Beginning, and the Difficulty of Breathing, with the Cough and Spitting, continue, the Eruption may be expected on the twentieth Day, or sooner; but if the Pain be gentle, and all the other Symptoms moderate in proportion, the Eruption may be longer delay'd: However, a Pain, Difficulty of breathing, and Spitting, must precede an Eruption of the Pus." Hence *Galen* infers, that the Prognostics of a Rupture of the Impostume are a Pain, Difficulty of Breathing, Cough, and Spitting, which, if they are continual and violent, prognosticate a speedy Eruption; if otherwise, a slower. However, as the Body inclosing the Pus is corroded by its Acrimony, there must of necessity be a Pain, Cough, and Spitting, because some of the thinner Part of the Sanies penetrates through the involving Substance; and a Difficulty of Breathing is unavoidable, both on account of the bad State of the whole Body, and more especially of the Pain. The Reason or Cause of the Eruption is referred to the motive Force of Nature, the Quantity of Pus, or its deprav'd Quality, irritating the expulsive Faculty to an Expectoration. The Rupture happens before due Time, or before the Pus is concocted, either by means of some pure Bile, which, not being thoroughly mix'd with the Matter, nor reduced to a moderate and natural Temperament, corrodes the Bag containing the Pus, or from the Redundance or Virulence of the Pus, or both of them together, irritating the expulsive Faculty. This is a symptomatic Eruption, and such as is condemn'd; but, when the Pus is duly and perfectly concocted, the Eruption is, from the Disposition of Nature, critical and laudable, and the Pus appears white, pure, equal, and smooth; whereas, in the premature and symptomatic Eruption, the Pus is crude, of a Mixture of Colours, and fetid, or yellow, and mix'd with Plenty of Bile. The

Author

Author of the *Coac. Præfag.* 392. speaking of this latter Eruption, says, "They who expectorate purulent and bilious Matter, whether separately, or mix'd together, generally die on the fourteenth Day."

These things being premised, we are now to consider what may be predicted from an Empyema: And, first, with respect to a Recovery: We are taught to prognosticate the Recovery of a Patient, labouring under an Empyema, by the following Signs, mention'd by *Hippocrates* in his Book of *Prognostics*: "Among good Signs, he says, may be reckon'd, for the Patient to support the Distemper with Ease, to breathe freely, to be free from Pains, to expectorate with Facility, for his Body to appear of an equal Warmth and Softness in every Part; that he has no Thirst; that his Urine, Stools, Sleep, and Sweat, are all laudable, and such as were before requir'd [in this Book]: If all these Symptoms concur, the Patient, we may be assur'd, will not die." And, a little after, he says, "They have most Reason to expect a Recovery, whom the Fever leaves the same Day after the Eruption, whose Appetite speedily returns, and Thirst ceases; when the Stools are small in Quantity, and consistent; and when the Pus is white, smooth, of one Colour, and free from Phlegm, and expectorated without much Difficulty, or violent Coughing. Under all these Requisites, the Patient is most happily and speedily reliev'd; but, if the Case be less favourable, they are surest to recover, whose Symptoms most resemble those before describ'd."

The Signs prognosticating Death, under an Empyema, are principally these, as enumerated by *Hippocrates*, in the same Book of his *Prognostics*; and are directly contrary to the former: As, "When the Patient supports himself with Difficulty under the Disease; when Respiration is great and full; when the Pain is continual; Expectoration is perform'd with much Labour and Coughing; there is a great Thirst; the Fever affects one Part of the Body more than another; the Belly and Sides are in a vehement Heat; but the Forehead, Hands, and Feet, are cold; and the Urine, Stools, Sleep, and Sweats, are all bad, or contrary to those in the former Case; if any of these Symptoms appear under Expectoration, the Patient will die before the Term of fourteen Days; or the ninth, or eleventh Day." And again, a little after: "They die [of an Empyema], if the Fever does not leave them, or returns after it had seem'd to have left them; if there be a Loss of Appetite, with a Looseness; or if the Pus they expectorate be greenish and livid, or pituitous and frothy; under all these Symptoms Death is inevitable." Whatever is expectorated by Spitting, but gives no Relief to the Patient, is condemn'd, *Coac.* 390. The Wife of blind *Meander*, *Lib.* 4. *Epid.* 7. 4. immediately expectorated greenish and purulent Matter on the sixth Day, and died about the twentieth Day. The Son of *Amphiphrades*, 7 *Epid.* 7. 4. expectorated a greenish Sort of Matter, and died on the twenty-eighth Day. *Hermopolemus*, *ibid.* 7. 16. on the fifteenth Day of his Illness, expectorated a palish Matter, and died the next Day. And, to conclude, *Hippocrates*, 7 *Aph.* 44. assures us, "that *Empyē*, or those who labour under an Empyema, if, after cauterizing, the Pus flows pure and white, recover; but if it be somewhat bloody, dirty, and fetid, they die."

From comparing the Passages above-quoted, with modern Authors, and his own Practice, *Boerhaave* seems to have collected the following Particulars relative to an Empyema, which he lays down by way of Aphorism.

When Matter or Pus is collected in the Cavity of the Breast, betwixt the Lungs and the Pleura, the Disorder is called an Empyema.

This is properly enough an Empyema; but the Matter may happen, also, to be collected in the Duplicatures of the Mediastinum.

The Disorder above-mentioned supposes a previous purulent Abscess within the Breast; which, breaking, discharges its Contents into the Cavity of the Thorax.

These Abscesses are seated, first, in the Lungs; and are caus'd either by Inflammations, Ruptures of the Vessels, or considerable Obstructions by Substances not easily resolvable.

Secondly, in the Pleura, arising either from an Inflammation, a slight Wound heal'd too precipitately externally, a Contusion, or Rupture of this Membrane.

Thirdly, in the Diaphragm; when an unresolv'd Inflammation of this Part suppurates, and breaks on that Side next the Breast.

Fourthly, in the Mediastinum; when that Part is, in like manner, inflam'd.

Fifthly, In the Pericardium, after an Inflammation thereof.

An Empyema may be prognosticated from an Inflammation of any of the Parts above-mentioned, which has not been resolv'd by means of Coction, Revulsion, a Crisis, or Medicines; but which terminates with a Shivering, a Fever which increases in the Evening, a wandering Heat, a Sense of Weight on the Part, a Difficulty of Breathing, Loss of Appetite, and Thirst.

An Empyema is known to be form'd, first, from a Duration of such a Disorder, as is mentioned above, for twenty Days, without a due Expurgation by Expectoration.

Secondly, by the Discontinuance of the Signs of an Abscess in any of the before-mention'd Parts.

Thirdly, from a new Pain, together with a Difficulty of Breathing, and Discharge of Saliva, which soon after ceaseth.

Fourthly, from a dry Cough, a Weight on the Diaphragm, an Impossibility of lying on one of the Sides, a Noise made by the fluctuating Pus or Matter upon Motion, a slow Fever, Redness of the Cheeks, Hollowness of the Eyes, Heat at the Extremities of the Fingers, Incurvation of the Nails, and Tumor of the Abdomen.

The Consequences of the Rupture of an Abscess or Vomica, so as to form an Empyema, are, first, a continual Accumulation of Pus or Matter from the Ulcer, not yet heal'd, nor deterg'd.

Secondly, a continual Agitation, a Degeneracy, Fetidness, Putrefaction, and Attenuation of the Pus or Matter, thus confin'd in a warm and moist Place.

Thirdly, a difficult Elevation of the Diaphragm, and Extension of the Lungs: Hence Respiration is render'd short, difficult, and not easily perform'd, unless in an erect Posture; Danger of Suffocation when the Patient lies down, which, however, it is not possible for him to do on the unaffected Side; a perpetual dry Cough, and Anxiety.

Fourthly, a Maceration, Corrosion, and consequent tabid State of the Lungs, Pleura, Diaphragm, Mediastinum, Pericardium, and of the Heart itself; a hectic Fever, attended with a small and quick Pulse; Redness of the Cheeks; perpetual Thirst; utter Loss of Appetite; extreme Weakness and Faintings.

Fifthly, hence an Unfitness of all the Fluids for Nutrition, Circulation, Secretion, and Excretion; whence a Consumption and Atrophy, a Resolution of the Fibres, a Putrefaction of the Liquids, and their Discharge through the corroded Lungs; or a sanious and fatal Diarrhoea, with nocturnal Sweats after Sleep, Pustules on the Face, Incurvation of the Nails, a shining Yellowness of the Skin, and an Hippocratic Countenance.

The Cure of this Disorder is to be varied according to the different Causes and States thereof. For, first, when it is known, that there is an Abscess of the Lungs, Pleura, Diaphragm, Mediastinum, or Pericardium, for the Signs of which see PERIPNEUMONIA and PLEURITIS, all Endeavours are to be us'd to break it as soon as is possible, and to determine it towards the external Parts. This is to be done by the actual Cautery, the Knife, and by Medicines, or proper Motion. By Medicines, I suppose, *Boerhaave* means, suppurating Topics, applied externally to the Parts; for, if the Pleura is affected, these may invite a Tumor outwards; from whence the Matter may be discharged by Incision or Burning. When it is known, that the Abscess is broken, the Matter discharg'd must immediately be brought away, either by the Mouth, provided Nature shews the Way, by exciting a considerable Expectoration; or by the urinary Passages, if there are Signs of the Excretion of Pus in the Urine; or by the Operation for the Empyema, which is to be perform'd, by a proper Instrument, on the Side affected, betwixt the fifth and sixth, or fourth and fifth Ribs, reckoning from the lowest Rib. The Pus is there to be evacuated gently, and by degrees; the Ulcer is to be deterg'd by Injections of soft and mild Decoctions, with an Addition of Honey; and, after that, the Wound is to be heal'd.

If the Pus or Matter discharg'd appears white, soft, uniform, void of Smell, and communicating no Colour to the Probe upon Contact; if the Patient is free from Fever, Thirst, and a Diarrhoea; if he eats and digests tolerably well, and is, in other respects, in a pretty good State of Health; and if the Access of Air to the Cavity of the Thorax is, by all possible means, prevented; there are Hopes of his Recovery.

If, on the contrary, the Pus is brown, ichorous, mix'd with small Fibres, or Blood, fetid, tinges the Probe applied to it, and bursts out all at once, there is the utmost Danger of Death, or a Consumption.

If the Mediastinum is corroded and perforated, upon opening the Thorax, a sudden Suffocation frequently ensues.

If the Empyema is of long Standing, if the Patient is extremely weakened, if the Hairs begin to fall off, if a colliquative Diarrhoea is already begun, and there is a great Extenuation of the Body; this Operation, generally, accelerates the Death of the Person on whom it is perform'd.

The Operation for the EMPYEMA.

The Operation for the Removal of Pus, or Matter, extravasated in the Cavity of the Thorax, is called *Paracentesis*; which is also perform'd in the Abdomen, and Scrotum, for evacuating Pus, Water, Blood, or any other foreign and preternatural Substance. But the *Paracentesis*, or Perforation of the Breast between the Ribs, becomes necessary,

First,

First, not only in the *Empyema*, strictly so call'd; but, also, secondly, when any Quantity of Blood is discharg'd internally from a Wound of the Thorax, thro' which it cannot be extracted, but induces various formidable Symptoms: But, in this Case, the Operation is, by the *French*, improperly call'd the Operation for the *Empyema*; since Pus is absolutely requisite to constitute an *Empyema*; for which Reason it is, more properly call'd a simple *Paracentesis*, or Perforation of the Breast.

Thirdly, this Operation becomes necessary, when the Waters in a Dropsy of the Breast are to be evacuated. When, therefore, the Disease itself, and its several Symptoms, such as a Difficulty of Breathing, and a Sense of unusual Weight and Fluctuation in the Breast, indicate a foreign and preternatural Humour lodg'd within, we are to have recourse to the Operation, since the noxious and peccant Matter can scarcely, if at all, be evacuated by any other means: But, before the Operation is attempted, 'tis to be carefully consider'd, whether the Patient, in the Situation he is in, can receive any Relief from it. When, therefore, the Strength is much impair'd and exhausted, this Operation is, generally, highly dangerous; for the Patient, for the most part, either dies under it, or soon after. His Fate is also the same, if, in consequence of the inveterate Nature of the Disease, the internal Parts are corroded and corrupted; or if the Patient labours under a Fever, a Flux, an intolerable Difficulty of Breathing, frequent Faintings, or cold Sweats; for all these Symptoms pronounce the Disease desperate, and almost always prognosticate a speedy Death. In these Cases the Operation, instead of being attended with Success, procures Infamy and Disgrace to the Surgeon, since he is generally charg'd with having kill'd a Patient, who, in reality, fell the genuine Victim to his own Disorder. But when none of these Symptoms appear, when the Patient is yet sufficiently strong, and the Disease recent, the Operation is frequently attended with due Success, because the Breast may be perforated without any Danger, provided the Surgeon is sufficiently cautious, since there is no Necessity for making an Incision in any Part besides the Skin, Fat, Muscles, and Pleura.

But before the Operation is attempted, we must carefully attend to two Circumstances:

First, in what Side of the Breast the noxious Matter is lodg'd: For, when the sound and unaffected Side is perforated, the Operation is to no Purpose.

Secondly, what particular Part of the Breast ought to be perforated. But, in order the more infallibly to discover in what Side of the Breast the noxious Matter is lodg'd, we are diligently to consider, first, in what Side the Patient before felt Inflammation and Pains. Secondly, in what particular Part the Patient perceives a Sense of Weight, and a certain Kind of Fluctuation. Thirdly, on what Side the Patient lies most commodiously; for in it the Matter is generally lodg'd; since he cannot lie, without great Uneasiness, on the sound Side. Fourthly, a certain Swelling, accompanied with a violent and intense Heat, generally discovers the affected Side. When we are thus satisfied with respect to the affected Side, if it should happen to be the Left, the Operation is most commodiously perform'd between the second and third; and, if the Right, between the third and fourth spurious Ribs, counting from the lowest, about an Hand, or five Fingers-breadth, or, in large-siz'd Patients, six Fingers-breadth from the Spine of the Back, and lower Angle of the Scapula; for, if the Perforation was made higher, the malignant Matter, collected in the lower Part of the Cavity of the Thorax, could not be commodiously discharg'd. *Boerhaave*, in *Aphor. N. 303*, treating of Wounds of the Thorax, orders the Perforation to be made between the second and third of the inferior true Ribs; but all good Surgeons dissent from him, because that Place is by far too high. The same Author, however, *Aphor. 1191*, speaking of an *Empyema*, directs the Operation to be perform'd betwixt the fifth and sixth, or fourth and fifth Ribs, reckoning from the lowest Rib. On the contrary, if the Perforation should be made lower than the Part we have directed, we are in Danger of wounding the Diaphragm, especially on the Right Side, where the Liver is connected to it.

In like manner, when the Perforation is made nearer the Spine of the Back, the Operation is far more tedious and doubtful, since the thick Muscles must not only be pierc'd, but since there is also the greatest Danger of wounding the intercostal Arteries and Veins, or other large Vessels, which, in this Part, are not inserted in the Sulci, or Furrows, of the Ribs; so that the Part directed by us is at once more commodious and safe for having the Perforation made in it, than any others.

This Part is to be mark'd with Ink; and the Patient reclining his Body a little, the Surgeon, and an Assistant, are, with their Fingers, to raise the Skin; after which an Incision, about three Fingers-breadth in Length, is to be made in the Part mark'd, that the Flesh may afterwards be perforated with the greater Ease. Surgeons make this Perforation in two different

manners; for they either thrust a sharp and triangular Instrument included in a Tube, by the *French* call'd *Trocar*, and represented in *Tab. 45. Fig. 1.* so far into the Flesh, till its Extremity is perceived to have penetrated into the Cavity of the Breast: Then they extract the Instrument, represented by *Fig. 2.* and evacuate the noxious Matter by the Pipe left in the Wound, and represented by *Fig. 3.* This Evacuation is to be continued as long as the Patient's Strength will bear it; for when we perceive a fainting Fit approaching, or find a large Quantity of the noxious Matter discharg'd, removing this Pipe; we introduce into the Perforation, another shorter Pipe, made either of Lead, as in *Tab. 23. Fig. Q.*; or of Silver, and flexible, as in *Tab. 26. Fig. 9.* These are carefully to be secur'd by Strings tied about the Breast, and by Plaisters over the Pipe: A thick Compress is to be apply'd, and secur'd by a particular Species of Bandage, by Surgeons call'd *Mantile cum Scapulari*, the Scapulary and Napkin. Sometimes the Skin, Flesh, and Pleura, are all perforated at one time by the *Trocar*; but as the Lungs, which frequently adhere to the Pleura, may possibly be injur'd by this Method, the more skilful and judicious Surgeons use the following Method. Having cautiously made an Incision, of about three Fingers-breadth in Length, in the Skin and Fat, they afterwards make a transverse Incision into the Flesh and Pleura, between the two Ribs above-mention'd, with the Knife G or H, in *Tab. 22.* after which they introduce the Pipe already mention'd, and evacuate the noxious and peccant Matter: But in making this Incision, we must take care, that the Body of the Patient be, in some measure, inclin'd forwards; since, by this means, the Interstice between the Ribs is render'd larger, and, consequently, more Space allow'd for the Incision; which when made sufficiently large, the Finger is to be introduc'd into it, and the Lungs, if adhering to any of the adjacent Parts, are to be separated, that the noxious Humours may be the more easily evacuated. Tho' this last Method of performing the Operation requires more Diligence in the Surgeon, and more Resignation in the Patient, yet 'tis, for several Reasons, preferable to the other; for, besides that the Lungs, if we perceive them to adhere, may in this Case be thrust back, either with the Finger, or a Probe, and, by that means, secured from Injury, the bloody or purulent Matter is capable of being far more effectually evacuated, in consequence of the Largeness of the Incision. According to *Mr. Petit*, we ought absolutely to abstain from Pipes and Tents, on account of the Disadvantages attending them; and rather introduce into the Incision a Piece of soft Linen Cloth, made up in form of a Tail, by which means the Wound is not only kept open, but also the peccant Matter continually and commodiously discharg'd: Over the Linen Cloth introduc'd into the Wound, we are to lay a Portion of Lint, with a Thread fix'd to it, and over this, more Linen; all which must be secur'd with a Plaister, and a tight Bandage.

On the subsequent Days, the Wound is to be dress'd once, twice, or thrice, according to the Uneasiness of the Patient; and, when as much of the noxious Matter is evacuated as the Patient's Strength can bear, we must twice or thrice, at every Dressing, inject some cleansing Liquor warm, which is again to be carefully evacuated: What is generally, and, at the same time, most efficaciously, us'd for this Purpose, is a warm Decoction of some vulnerary Herb, such as *Paul's Betony*, *Scabious*, or *Saracens* Consound, mix'd with Honey of Roses, and Oil of Myrrh, and, unless the Patient is afflicted with a Cough, with a little of the Essence of Myrrh, or the pectoral Balsam of *Wurtzius*: *Garengot* highly recommends, for this Purpose, a Decoction of the *Periscaria*; and, if the Disorder arises from a Pleurisy or Peripneumony, a Decoction of Marsh-mallows; But common Spirit of Wine, impregnated with the Sulphur of Antimony, is equally efficacious, both in cleansing and healing the Wound: Others recommend Lime-water, mix'd with Honey of Roses, as the most proper Liquor for this Purpose. After these Measures have been taken for some time, we are carefully to observe, whether the injected Liquor returns pure and free from any Remains of the peccant Matter; for then we may conclude, that the Cavity of the Breast is sufficiently purg'd; after which, the Piece of Linen Cloth, or Pipe, is to be extracted, and the Wound conglutinated, like other Wounds of the Breast: But that the Liquors injected may be again discharg'd more effectually, the Patient must be ordered to recline his Body on the Part where the Wound is made, and breathe strongly. In the Cure, we are, above all things, to take care, that proper internal Medicines, especially vulnerary Decoctions and Balsams, together with a due Regimen, be not neglected.

We must also observe, that the corrupted Matter generated by the Inflammation, does not always fall down to the inferior Part of the Breast, but rather penetrates thro' the Flesh, and forms a Tumor and Abscess on the external Parts of the Breast. When this happens, we are not to make the Incision in the posterior Part of the Thorax, as already directed, but immediately on the Part affected, and appearing externally tumid, whether anterior or posterior. Sometimes this Disorder is so violent,

violent, that the Matter diffuses an highly fetid Smell, and corrodes the Ribs; and if the vitiated Parts of these cannot be removed, the Disorder is generally incurable.

When under the Sternum, and between the Membranes of the Mediastinum, any Abscess is form'd by a Fall, a Blow, or a Fracture of the Sternum, the peccant Matter can scarcely be evacuated by any other means than a Perforation of the Sternum. When, therefore, an Abscess of this Kind is suspected by skillful Physicians and Surgeons, tho' both the Nature of the Disorder, and Experience, convince us of the Difficulty of determining certainly in this Case, the Operation is to be perform'd in the following manner: The Patient must be laid on his Back, and a crucial Incision made in the lower Part of the Sternum, where the Abscess sometimes discovers itself by a small Hole; then drawing aside the Lips of the Wound, the Sternum is to be perforated in the same manner with the Head, when trepan'd. When the Perforation is made, the Patient is to lie on his Breast, for the more commodious Discharge of the corrupted Matter. When the Abscess is sufficiently cleans'd, especially with the Injections already recommended, the Wound is to be dress'd, and conglutinated, almost in the same manner with Wounds of the Head, made by the Trepan. Some are of Opinion, that this Perforation of the Sternum is not so dangerous as that of the Cranium, because the noble and important Parts of the one may be more readily injur'd than those of the other: Yet 'tis not to be deny'd, that the Signs by which a Collection of Matter under the Sternum is discover'd, are highly dubious and uncertain. *Columbus*, however, and *Caspar Hoffman* inform us, that if Humours are preternaturally collected in this Cavity of the Mediastinum, they may be safely evacuated, by perforating the Sternum. *Dionis* also tells us, that he saw this Operation perform'd, but that the Patient died soon after: Great Caution is, therefore, necessary in an Attempt of this Kind. *Petit* recommends the Perforation of the Sternum, when, after a Fracture of it, however reduc'd, a Pain remains under it, longer than might be reasonably expected; for, says he, this is a Sign, that an Abscess still is conceal'd under it. In his Treatise on the Bones he affirms, that the Sternum is sometimes perforated by the Pus lodg'd under it, and which is, in some measure, discharged from it: But, because the Ulcer can neither be sufficiently detorg'd, nor the Pus effectually discharg'd, by such a small Perforation, he orders it to be enlarg'd by a Perforator, and the Wound cleans'd in the manner already directed. *Heister. Chirurgia.*

With respect to the Operation above-describ'd, *Heister*, we see, and the best Authors extant, approve it; amongst whom is *Boerhaave*, who, in *Aphorism* 303. directs it, when a considerable Quantity of Blood is extravasated in the Thorax, by a Wound; in *Aphorism* 1191. when Pus is lodg'd in the Cavity of the Breast, and can neither be brought away by Expectoration, nor discharg'd by the urinary Passages; and, in a Dropsy of the Breast, *Aphorism* 1219. I find, however, that *Mr. Sharp*, in his Treatise of the Operations of Surgery, speaks of this Operation as superfluous, or even prejudicial, for the Evacuation of Blood, or Pus, discharg'd into the Cavity of the Thorax. "The Fluids," he says, "described as necessary to be voided by this Operation, are Blood, Matter, and Water; but I am inclin'd to think, that upon Inquiry, either into the Reason or Success of practising in all these Instances, we shall be induced to discard it as useless and pernicious in the two first, and confine its Advantages wholly to the last."

"When Blood is the Fluid suppos'd to require Evacuation by this Method, 'tis always extravasated through some Wound of the Vessels of the Lungs or Thorax, and, being discharged in great Quantities on the Diaphragm, is said to oppress Respiration, till let out by some convenient Perforation, made in the most depending Part of that Cavity, which is the only Kind of Perforation into the Thorax, distinguish'd by the Name of the Operation for the Empyema: But, if the Blood-vessels wounded are very large, the Opening at the Bottom of the Thorax can be by no means advisable, whilst the Hæmorrhage continues, since it will be a Drain for a dangerous Effusion of Blood, which, perhaps, would otherwise be choak'd up, and stop'd, for want of a ready Issue."

"I know there are some Surgeons who admit of this Reasoning, yet still judge it necessary to perform the Operation, when the Hæmorrhage is stop'd: But since, in Wounds of the Lungs, we see the Blood not only for the most part finds some Vent by the external Wound, if left open, but is constantly spit up by the Trachea, had we no other Proofs of this absorbent Power in the Lungs, we might from hence be persuaded of the Probability of its being more safely carried off so, than by any artificial Opening we can possibly contrive in the Thorax."

"Or if it be thought, that the extravasated Blood, being coagulated in the Thorax, cannot be taken up by the Vessels of the Lungs, yet, even in this Case, the Operation

"usually practis'd will not answer the Purpose; for, besides that the Lungs frequently adhere to the Pleura, in the Place of Incision, which would absolutely prevent any Advantage from it, the Depth and Narrowness of the Orifice, and its Height above the Diaphragm, on which the congeal'd Blood is suppos'd to lie, will make the Success, at best, very precarious."

"If, then, the Attempt to discharge the Blood, by this Operation, be not eligible, when we know of its Extravasion, it will be still less so, in Cases that are doubtful; nor will the Use of Tents and Injections for that Purpose be advisable."

"If I have shewn the Impropriety of the Operation for the Empyema, in relation to Wounds of the Thorax; its Unfitness, also, in those Cases where Matter is suppos'd to lie loose in the Thorax, will as readily appear; for, if we mean by it to give Issue to an Abscess of the Lungs, it will be needless; since an Abscess of the Lungs, when they do not adhere, and ulcerate outwards through the Ribs, will, almost always, be discharged by the Trachea; which is so generally true, that, upon opening several, who have lost a great Part of their Lungs by Impostumation, I do not remember to have found any loose Matter in their Thorax: And it is notorious, that many consumptive People die of the Discharge they spit up from their Lungs: From whence it may be infer'd, that the Operation is not, with any good Prospect, to be undertaken on this Account: There possibly may have been some few Impostumations, form'd between the Mediastinum and Lungs, which have been discharged into the Cavity; but here, if the Matter is in a small Quantity, the Lungs will take it up; and if in a large one, the Evacuation will do but little Service: Besides, these Instances are but very few, and the Symptoms of an oppress'd Diaphragm, from that Cause, but very doubtful; so that I think the Operation is not advisable, upon such a Presumption. Generally speaking, in any Inflammation of the Pleura, or Lungs, an Adhesion of both ensues; in consequence of which, Nature finds a Discharge outwardly, it being most frequent for Abscesses of the Pleura, and intercostal Muscles, and not uncommon, even for Abscesses of the Lungs, to break externally. In case of an Adhesion, no farther Operation is requir'd, than opening the Tumor, when suppurated, with a Lancet; and if the Discharge is so great as to forbid the healing the external Ulcer, it may be kept open with an hollow Tent; by which manner of Treatment many have liv'd, a long time, with a running Fistula."

I would not conclude the last-quoted Author to be wrong, with respect to the discarding this Operation, upon the Authority above-mentioned, or any other; but would chuse to consult Reason and Success, to which he himself appeals, upon this Occasion: But I shall here confine myself to the Propriety of the Operation, when Pus is discharg'd into the Cavity of the Breast, and forms what is properly call'd an *Empyema*.

When, therefore, we are certain, from the Signs of a preceding Inflammation, Suppuration, and Rupture of an Abscess, in any Part within the Cavity of the Breast, that a large Quantity of Matter is there lodg'd, and, at the same time, no considerable Expectoration, nor any Appearance of a Discharge of Matter ensues, the Patient, unless reliev'd, must necessarily die tabid: But if a violent and sudden Discharge of Matter is made by the *Aspera Arteria*, the Patient perishes by Suffocation, as we learn from *Hippocrates*, and Experience. Now in the first of these Cases, and when the other is to be apprehended, I think it highly reasonable to try an Operation, which is not very hazardous, rather than suffer the miserable Patient to perish without any Prospect of Relief; especially as the Cases annex'd to this Article shew, that large Quantities of Matter are sometimes contain'd in the Cavity of the Thorax, which may by a Perforation be let out.

As to the Success of this Operation, many Histories occur, in medicinal Writers, much in its Favour; and I have myself been a Witness, more than once, of the sudden Recovery of Patients by means thereof, who, in all human Probability, must otherwise have perish'd; and I have heard of many more, both from Physicians who have directed it, and Surgeons who have perform'd it. Among others, the following Case is remarkable, and comes up to my present Purpose.

Robert Kidwell, a Gardener, at this time, in *Lambeth-marsh*, near the End of the new Bridge, was some Years ago, being, at that time, about Eighteen, seiz'd with a violent Pleurisy, in consequence of Bathing in cold Water, immediately after working very hard: He was blooded copiously several times, and other Measures were taken, in order to resolve the Inflammation; but to no Purpose; for it was succeeded by Shiverings, and all the Signs of the Formation of Matter; and afterwards, by the Signs of a Rupture of the Abscess, and a Discharge of Pus into the Cavity of the Breast. *Mr. Westbrook*, a Gentleman well distinguish'd by his Abilities in his Profession, at this time visited him, and found him labouring for Breath; his Breast seem'd much distended; his Face was pale,

swelling,

thining, and oedematous; and he was so weak, as not to be able to lift up his Hands, which hung down by his Sides, much swell'd, utterly useless. Mr. *Wesbrook* judg'd, that as he could not possibly live many Hours in this Condition, the only way to save his Life, was to perform the Operation. He accordingly made a Perforation into the Thorax with an Incision-knife, about two or three Fingers-breadth directly below the Left Breast, which Place he thought the most prominent. An excessively fetid Pus immediately burst out with such Violence, that it flew all over the By-standers, and wetted a large Sheet; besides which, more than a Pint was collected in a Porringer. The same Quantity, that is, more than a Pint, was discharged at every Dressing for seven or eight Days. During the Course of the Cure, the Orifice, by some Accident, clos'd so much, as to make it necessary to dilate it; which was accordingly done, and a very considerable Discharge of Pus follow'd. In three Days the Patient was able to walk up and down Stairs; in about eight Weeks the Orifice was clos'd, and perfectly heal'd; and, a very little time afterwards, he was strong enough to beat two Men, with whom he had a Quarrel. It is remarkable, that his Cure was succeeded by an Abscess, and consequent Fistula, in the Anus, of which he was cured; and is at this time a very hearty and strong Man.

OBSERVATION I.

Carolus Piso says, that though, according to *Hippocrates*, a Pleurisy does not tend to a Suppuration before the fourteenth Day, yet he has in the Course of his own Practice known this happen, not only in young Persons, but also in those arrived at the Years of Maturity, in seven, or even in four Days; the Suppuration in the mean time palpably discovering itself by a Shivering, and subsequent Fever, seizing the Patient on these Days, and recurring every Day following. Thus, in a certain young Gentleman of Distinction, a Shivering and Fever appearing on the fourth Day, and recurring on the fifth, sixth, and seventh Days, prognosticated a Suppuration.

The laying open this Patient's Body, before the second Week of the Disorder was expired, sufficiently demonstrated, that a perfect Suppuration had happen'd before the Time specified by *Hippocrates*, since his whole Thorax was found stuffed with Pus. Besides, I remember, says he, to have seen Pus in the Thorax of a certain Clergyman, who died on the ninth Day of a Pleurisy, because he had been so ill-advis'd, as to use Purgatives, neglecting at the same time Venesection, till the sixth Day of his Disorder, when I was call'd. *Carolus Piso*, *de Morbis ab Illuvie Seroja*.

OBSERVATION II.

Upon dissecting the Body of a Patient, in whom an internal Suppuration had happen'd, I found the Left Lobe of the Lungs entirely wanting, and the Left Cavity of the Thorax filled with purulent Water; notwithstanding which, the Patient, during the two Months he had been afflicted with this Disorder, laboured under no Difficulty of Breathing, and had only a gentle Cough, without any Expectoration of the morbid Matter. *Dem. Panarolus Ponti*, *C. 1. Observat. 46*.

OBSERVATION III.

In a certain Person, on whom the Operation for the Empyema was perform'd, the Lungs appeared sufficiently sound and firm; but a Matter discharged from an internal Abscess of his Side, into the Cavity of his Thorax, so compress'd the Diaphragm, that he could hardly breathe. The Surgeon, without the Use of any Caustic, introduced his Knife between the sixth and seventh Ribs; after which, putting a Pipe into the Orifice, a bloody Ichor was first discharged, and at different times taken away in moderate Quantities. For three Days this Matter was evacuated without any fetid or noisome Smell; but afterwards, every time the Perforation was opened, a highly fetid Smell was diffused, till by Decoctions of Myrrh and bitter Herbs, prepared with Water and Wine, and frequently injected every Day, the morbid Matter and Sordes, producing this Smell, were totally attenuated, and wash'd away. After this the Discharge entirely ceasing, and the Perforation being consolidated, the Patient remain'd in a perfect State of Health.

Upon laying open the Body of a Patient, who would not submit to the Operation for the Empyema, I found that a certain Quantity of Pus, discharged from an Abscess in the Pleura, and intercostal Muscles, had sphacelated the Part affected, and the contiguous Portion of the Lungs; after which, corroding the Diaphragm, so as to make a Perforation in its Right Side, it had fallen down upon the abdominal Viscera, and not only discoloured, but corroded their external Coats. Then the purulent Matter, corroding and perforating the Intestinum Rectum, was at last discharged with the Excrements. As this Patient was naturally robust, and had an Aversion to all Kinds of Medicines, he supported his Disorder for two Months, during which he laboured under a slight Fever, Thirst, Restlessness, an uneasy Sensation at the Stomach, frequent Vomitings, and a Privation of Sleep.

Upon opening the Body of another, who died of an Empyema, I did not find such a large Collection of purulent Matter; but there was a purulent Ulcer in the Pleura, which continually discharged Pus in large Quantities into the Cavity of the Thorax, and contaminated the Lungs, which were in a manner immers'd in it. This Patient during his Disorder was afflicted with a kind of slow Fever resembling a Hectic. *Willis Pharm. Rat.*

OBSERVATION IV.

A certain Man, about thirty Years old, when drinking Wine, was so foolish, as, by way of Ostentation, to break and chew the Glasses; but at last a Fray happening between him and some of his Companions, he was soundly beat and kick'd. Upon this he was not only seiz'd with an Asthma, accompanied with a pungent Pain of his Side, but also discharged large Quantities of Blood, both by Vomit and Stool. Various Methods were taken for his Relief, but to no Purpose; for as the purulent Matter contained in the Cavity of his Thorax could not be evacuated by Expectoration, and as he absolutely declin'd the Operation for the Empyema, he at last fell a Sacrifice to his Obstinacy.

After his Death we carefully opened his Abdomen, and took an accurate Survey of his Stomach, Intestines, Liver, Spleen, Kidneys, Mesentery, Omentum, and Bladder; in which we found no Marks of any Injury, much less any Traces of chew'd Glass in his Stomach and Intestines; the Circumstance to which his Antagonists ascribed his Death. But afterwards, laying open the Cavity of his Breast, which, especially on the Right Side, we found stuffed with a large Quantity of acrid, purulent Matter, as far down as the Diaphragm, after wiping up this Matter with Sponges, we found not only the Pleura, but also the whole Pericardium, corroded all around, and the Right Lobe of the Lungs so flaccid, tabid, and collaps'd, that, of all its Substance, there only seem'd to remain a slender kind of membranaceous Part, with some few Vessels in it. From these Circumstances it is sufficiently obvious, that this Patient, as the Matter could not be expectorated, died not only for want of the Operation for the Empyema, in order to give Vent to the pent-up Matter, which produced the Corrosion and Corruption of these Parts, but also on account of the flaccid and collaps'd State of the pulmonary Vesicles, by which a free Respiration must necessarily be prevented. *D. Eberhard. Goeckelius, in Miscellan. curios. Decur. 2. An. 7.*

I cannot finish this Article, without giving a Passage from *Hippocrates's* fourth Book *de Morbis*, extremely pertinent to the present Subject. This Author, after giving the Method proper for promoting Expectoration, proceeds thus:

If Pus be generated from Spit left in the Lungs, the Patient is molested with a dry Cough; a Fever seizes him with a Shivering; he labours under an Orthopnoea, with a short and thick Respiration; his Voice becomes of a deeper Tone; and a high Colour, with a Heat, overspreads his Face. In Process of Time the Disease shews itself by more evident Signs. If the Pus cannot be evacuated, there is an Eruption of it from the Lungs into the Thorax; after which the Patient seems to be well, the Pus being translated from a narrower into a larger Capacity, and the Function of Respiration being freely discharged by the Lungs. But, in Process of Time, the Thorax is filled with Pus; and the Cough, and the Fever, with all the other painful and troublesome Symptoms, return with more Violence; and the Disease manifests itself in all its Forms. In this Case it will be convenient to let the Patient alone till fifteen Days after the Eruption, that the Pus may have time again to mature, since by its Translation into a larger Place, and its Refrigeration by attracting to itself the Humidities of the Thorax, it must of necessity be no more than half putresc'd or digested. If, in the Time before-mentioned, Expectoration begins spontaneously, it is well; if not, we are to assist the Patient, in some of the said fifteen Days, with Medicines and Potions in order to his Refreshment, and to recruit his Strength before his Body be too much enfeebled, and to preserve the Head pure and clean from all Matter which may cause a Defluxion. But if there be no Discharge by Expectoration, and there be plain Indications, that the Stress or Tendency of the Pus is towards the Sides, make no Scruple to use the Knife or Cautery. If there be no Signs of this Nature, nor yet any Expectoration, let the Patient, after bathing in Plenty of hot Water, fasting, and without the least drinking, be firmly seated in a Chair; and, ordering an Attendant to lay fast hold of his Shoulders, shake him well yourself, clapping your Ear to his Ribs, that you may discover the Part whence the Indications are to be taken. And here it is to be wished, that the Place affected might lie towards the Left Side, because Burning or Cutting are most fatal on the Right; for the stronger the Parts are on the Right Side, the more violent are the Diseases in those Parts. If there be no Fluctuation, because of the Thickness of the Humour, and consequently no Noise to be heard in the Breast, but the Patient fetches his Breath short, his Feet swell, and he is molested with a Cough, you may assure yourself, that the Thorax is full of Pus. Dip, therefore, a thin Linen

Linen Cloth in a warm Infusion of Eretrian Earth finely triturated, and lay it all over the Thorax; and in that Part where you find the Cloth first dry'd, make the Section, or apply the Cautey, in such manner as to approach very near the Diaphragm, but without touching it. You may, if you think fit; anoint the Part with the Eretrian Earth, and make the same Observation as in the Linen Cloth: Many use the Unction with the other Method, lest the Parts which are first anointed, should be dry'd. After the Operation by Burning or Incision, introduce a Tent made of Tow, and evacuate the Pus by little and little. When you have determin'd on Cutting or Burning, it will be very proper to make a Mark on the Skin, within whose Limits you are to confine the Direction of your Knife or Cautey, and so avoid carrying them too high, or too low. All Food which is disposed to excite Coughing, is to be avoided, lest it should cause a Revulsion of the Pus into the Lungs, which would be bad for the Patient; but the Pus is to be suffered to dry as soon as possible, in order to its Discharge by the Incision. At the End of twelve Days, evacuate the rest of the Pus; and, stopping the Hole with a Linen Tent, draw out the Pus twice in a Day, prescribing also a Diet proper for drying the inner Region of the Thorax [*ἀνω κοιλίῃ*]. And this is the Method of examining and curing an Empyema, whether proceeding from a Wound, Peripneumony, or violent Catarrh, occasioning a Pressure of the Lungs against the Side.

EMPYOS, ἐμπύος, is one affected with an ΕΜΡΥΕΜΑ; which see.

EMPYREUMA, ἐμπύρευμα, from ἐμπυρεύω, to kindle, of πυρ, Fire, according to *Galen, Lib. 9. de S. Fac. in Princip.* is a sort of Ignition, or dry adventitious Heat, which Bodies receive from igneous Particles, and deposit afterward in Lotions. *Empyreuma* also signifies the Remains of the febrile Heat after the Paroxysm of a Fever. *Empyreuma*, in Chymistry, is the offensive Smell and Taste, which distill'd Waters, or other Substances, receive from being too much expos'd to the Fire.

EMPYROS, ἐμπύρος, one labouring under a Fever. *Hippocr. Lib. 2. de Morb.*

EMULGENTES *Vena & Arteriae*, the emulgent Veins and Arteries. See RENES, ARTERIÆ, and VENÆ.

EMULSIO. An Emulsion. I have given an Account of Emulsions made of oleous Vegetables, under the Article CHYLUS. But Medicines of any Kind, made in a Form resembling Milk, are call'd Emulsions. Thus Solutions of Gums, Resins, or Sperma Ceti, made by means of the Yolk of an Egg, in a proper Vehicle, are call'd Emulsions.

EMUNCTORIUM, *Emunctory*, the Passage by which any thing vitiated or useless is evacuated: Thus the Skin is call'd the *Emunctory* of the Body; the Nose is call'd the *Emunctory* of the Brain; the Glands are also call'd *Emunctories*.

EMUNDANS *Medicamentum*, an external deterfive Medicine. *Blancard.*

ENÆ (*Chartarum*) in *Marcellus Empiricus*, is a corrupt Word for INÆ; signifying the slender Threads of Paper, which being raised, render it rough. *Salmasius in Solin.*

ENAIMOS, ἐναιμος, ἐναιμον, from αἷμα, Blood, is an Epithet often apply'd, by *Hippocrates* and *Galen*, to such topical Medicines as are appropriated to a Wound newly inflicted, before the Blood be stop'd. *Celsus, Lib. 5. Cap. 19.* describes several vulnerary Plaisters, which, he says, the *Greeks* call ἐναιμα, *Enaima*. "ἐναιμον σῶμα, in *Hippocrates*, is a Body abounding with Blood.

ENÆOREMA, ἐναιώρημα, from αἰωρέω, to exalt, of αἰωρς, sublime, is the pendulous Substance which floats in the Middle of the Urine; call'd by Physicians also *Sublimamentum*. *Hippocrates* frequently expresses it by νεφελή ἐπιτορρεμένη, which *Celsus* renders *Nubecula suspensa*, "a suspended Cloud." Thus, *Prognost.* it is said, that "Of Clouds suspended in the Urine, the white ones are good, but the black, bad." Again, a little after, "The Clouds in the Urine are to be inspected, whether they are in a high or low Situation, and what Colours they represent; for those which tend downwards, and are of the Colours above-mention'd, are good and laudable; but those which tend the contrary Way, with the Colours above-described, are bad, and to be condemned." *Galen*, in his Comment on the foregoing Passage, says, that "He calls an *Enæorema*, that thick and whitish Substance in the Urine, which neither swims at the Top, nor sinks to the Bottom, but is suspended in the middle Region, either exactly in the Middle, or tending downwards, rather than upwards. *Hippocrates* calls the same a Cloud, because it has a like Situation in the Urine as a true Cloud in the Air; for it is of a grosser Substance than the circumfused Liquid, in like manner as a Cloud is more substantial than the surrounding Air."

ἐναιωρήματα γαστρίδια, 1 and 3 *Epid.* are *Enæoremas* resembling the seminal Matter, being a sort of grandinous and grumous Substance, consisting of much vitreous and viscid Phlegm, with a great Quantity of crude Matter.

ἐναιωρήματα στρογγύλια, διασπαρμένα, ἔχ' ἰδρύον, "the *Enæoremas* were of a round Figure, scattered, and had an unfertled Situation," in *Lib. 1. Epid.* These portended a Delirium."

Ἐναϊώρημα μελίωρον, "sublime *Enæorema*," in *Lib. 3. Epid. Ægr. 3. 9. 12.* portended a Delirium, as indicating the Matter to be carry'd upwards by the Flatulences, to the Disturbance of the Brain.

Ἐναϊωρέμενοι ὀφθαλμοί, "Eyes lifted up;" *Prognost.* as explain'd by *Galen*, are Eyes which are inconstant, and always in Motion. The same seems to be a proper Expression for Eyes which are drawn upwards, and held suspended; as in dying and fainting Persons, when the Pupil of the Eye is covered by the upper Eyelid, as we read *Coac. 218.* where the Author seems to express the *Enaiorumeni Ophthalmi*; and such were the Eyes of *Ænlatas*, *Lib. 7. Epid. Ægr. 35.* when they are described as in the Posture of those who are in a Lipothymy; by which his speedy Death was indicated.

ENANTESIS, ἐναντιοσις, from ἀνίσταω, to meet, of ἀνί, against, is a Word by which *Galen* expresses the near Approach, and almost Meeting, of the ascending and descending Blood-vessels.

ENARGES, ἐναργής, from ἀργός, white, evident, manifest, is an Epithet apply'd by *Hippocrates* to Dreams, 1 *Prorrhet.* and *Coac. 90.*

ENARICYMON. The same as ARICYMON; which see.

ENARTHROSIS; see ARTICULATIO.

ENAUZIA, ἐναυζία, see AUZIOS.

ENCANTHIS, ἐγκανθίς, from ἐν, in, and κανθός, an Angle of the Eye.

In the larger Canthus, or Angle of the Eye, there sometimes arises a certain Tubercle, either from the Caruncula Lacrymalis, or from the crescent-like red Cuticle adjacent to it: Sometimes this Tumor or Swelling increases to such a surprising Bulk, as not only to cover the *Puncta lacrymalia*, but also the greatest Part of the Pupil. When this happens, the Tears continually trickle down the Cheeks, the Sight is impaired, the Countenance deformed, and the Eyes inflamed. See *Tab. 36. Fig. 27.* This Disorder was by the *Greeks* call'd *Encanthis*. There are two Kinds of it; the more mild and benign of which is neither accompanied with Hardness nor Pain; whereas that which is more obstinate and malignant, is accompanied with Pain, livid, and in some measure partaking of the Nature of a Cancer.

When the Encanthis is of the mild and benign Kind, frequent Scarification, or Incision, as also gently corroding Medicines, generally contribute much to a Cure, if us'd in the Beginning. But the best corroding Medicine, of a mild and gentle Kind, is a Powder prepared of four Parts of Sugar-candy, and one Part of white Vitriol, or a fifth Part of burnt Alum. This Powder is frequently and cautiously to be sprinkled on the Tumor, and the Eye is afterwards to be wash'd with lukewarm Water, till the Disorder is found to be totally remov'd. If this Powder should not produce the design'd Effect, the Tumor may, now-and-then, be cautiously touch'd with the Lapis Infernalis: But that a more effectual Revulsion of the Humours may be made from the Eyes, and the Return of the Disorder more infallibly prevented, Fontanels and Setons, together with such Medicines as render the Body soluble, and purify the Blood, are highly necessary. But if no Medicines are sufficient for consuming the luxuriant and superfluous Flesh, or if, in the more malignant Sort of this Disorder, the Application of corroding Medicines should seem less safe, the Tubercle must be extirpated with a Hook, like those represented in *Tab. 36. Fig. 30 and 31.* or with a Forceps; and, if it is very large, a Thread may be pass'd thro' it, with a Needle, by means of which it is to be carefully raised, and cautiously cut out; for in this Operation uncommon Care is to be taken, that no Part either of the Eye itself, or of the Caruncula Lacrymalis, be cut; for as this Caruncle retains the Tears in the great Canthus from continually trickling down, if it should be imprudently injured, the Humours must of course continually trickle down, and produce what we call a Weeping Eye. 'Tis, therefore, more expedient to leave a small Portion of the luxuriant Flesh in the Eye, than totally to extirpate it; for the remaining Portion may afterwards be remov'd with Caution, either by a Pair of Scissars, or the Assistance of some corroding Medicine. When the Tubercle is thus remov'd, drying and conglutinating Medicines are to be us'd, till the Wound is healed. This Intention is answer'd by a Collyrium prepared of Tutty, Myrrh, and Aloes.

In an obstinate Encanthis, and such as already tends to a Cancer, it is more expedient to use drying, refrigerating, and lenient Collyriums and Ointments, than to have recourse to the Operation, and burning Medicines; because, by these last, the Disorder, as in Cancers, runs a Risque of being augmented. *Purman* gives us a memorable Instance of a large Tumor of this Kind, which he himself happily extirpated, by passing a Ligature about it, elevating it sufficiently, and applying the actual Cautey to its Root. *Heister. Chirurg.*

ENCARDION, ἐγκαρδιον, from καρδία, the Heart. The Heart or Pith of Vegetables. *Dioscorides.*

ENCARPOS, ἐγκαρπος, from ἐν, in, and καρπός, Fruit. A Woman with Child is thus figuratively call'd. *Suidas.*

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ENCATALEPSIS, ἐγκατάληψις. The same as **CATALEPSIS**.

ENCATANTLESIS, ἐγκατάντησις. The same as **EPANTLESIS**.

ENCATHISMA, ἐγκάθισμα, from ἐγκάθηναι, to sit in. The same as **SEMICURIUM**, which see.

ENCAUMA, ἐγκαυμα, from καίω, to burn. A Pustule contracted by a Burn. The Mark left by a Burn.

Encauma also imports a Sort of Ulcer in the Eye. Thus *Actius, Tetrabib. 2. Serm. 3. C. 25.* informs us, that those superficial Exulcerations of the Eyes, which arise from De- fluxions of Humours, are call'd by different Names. A *Caligo*, for Instance, is a superficial Ulcer form'd in the Black of the Eye, covering most of it, and of a bluish Colour; but, when this Ulcer is form'd in the Pupil of the Eye, the Patient's Sight is considerably impair'd. A *Nubecula* is a smaller, deeper, and whiter Ulcer, form'd also in the Black of the Eye. On the contrary, an *Epicauma* is said to be form'd, when the Sur- face of the Black of the Eye becomes rough, appears parched, and assumes a cineritious Colour. An *Encauma* is an Ulcer generally arising from a Fever, and producing an impure and fœtid Crust, either in the Black or White of the Eye. When 'tis deep-seated in the Black, in attempting the Cure, a violent Corrosion of the Coats for the most part happening, the Hu- mours are gradually discharged, till the whole Eye at last drops out. When these superficial Ulcers happen, either with or without a Fever, the first Step to be taken is to evacuate the Fæces by Clysters. Then we are to drop into the affected Eye the *Collyrium Nili ex Rosis*, much diluted; and, in the Intervals between the Use of this *Collyrium*, Milk is also to be dropt into it. After these Measures are taken for a few Days, we are to mix the *Chiacum Apollonii*, or some aromatic Substance, with the *Collyrium Nili*: After this we are to use these Substances alone, since they soon induce slender, and scarce perceptible, Cicatrices.

ENCEPHALOS, ἐγκέφαλος, from ἐν, within, and κεφαλή, the Head. The Brain. See **CAPUT**.

ENCERIS, ἐγκρίς, from κηρί, Wax. Small Grumes or Concretions of Wax, which will sometimes be found in Plaisters, as they cool. *Galen, de C. M. P. Gen.*

ENCHARAXIS, ἐγχάρᾶξις, from χαρίζω, to scarify. Scarification. *Galen.*

ENCHEIRESIS, ἐγχήρισις, from χεῖρ, the Hand. *Galen* has made this Word a Part of the Title to one of his Works, which treats on the Method of dissecting the Parts of the Body. His Interpreters translate it by *Administratio*. It imports the Handling, or manual Treatment, of any Subject whatever.

ENCHEIRIA, ἐγχείρια. The same as **ENCHEIRESIS**, and of the same Derivation. It occurs in *Hippocrates, Lib. de Artic.*

ENCHONDROS, ἐγχόνδρος, from χόνδρος, which signifies both a Grain, and a Cartilage. Hence it implies both *granulated* and *cartilaginous*.

ENCHORIUS, from ἐν, in, and χώρι, a Region, or Country. Endemial. See **ENDEMIUS**.

ENCHRISTA, ἐγχρίστα, from χρίω, to anoint. Liquid Me- dicines, with which any Part is anointed.

ENCHYSA. The same as **ANCHYSA**. Alkanet. *Blan- card.*

ENCHYMA, ἐγχυμα, from ἐγχέω, to infuse. Infusion. What the Physicians call *Plethora ad Vasa*, that is, a Fulness of the Vessels simply consider'd as relative to themselves, is also call'd, πλεθὸν κατὰ τὸ ἐγχυμα, a Fulness from Infusion, or on account of having too much Blood infused into them.

But *Enchymata* are liquid Medicines, to be infused into the Eyes or Ears, or injected into the Thorax.

ENCHYMOMA, and **ENCHYMOSIS**, ἐγχύμωμα, and ἐγχύμωσις. A sudden Effusion of Blood into the cutaneous Vessels; such as happens upon Joy, Anger, or Shame; and, in the last Instance, is call'd *Blushing*. This is very different from *Echymosis*; which see. It is of the same Derivation as **ENCHYMA**.

ENCHYTOS, ἐγχυτός, of the same Derivation as **ENCHYMA**. An Epithet for any thing infus'd or infil'd into any Cavity of the Body, but particularly the Eyes.

Blancard interprets *Enchyta* a Funnel, by which any thing is infil'd into the Eyes, Ears, or Nostrils.

ENCLYSMA, ἐγκλυσμα, from κλύζω, to wash. A Clyster. *Dioscorides.* See **ENEMA**.

ENCOELIA, ἐγκοιλία, from κοιλία, the Belly. The ab- dominal Viscera; that is, all the Contents of the Abdomen.

ENCOLPISMOS, ἐγκολπισμός, from ἐγκαλπίζω, to infi- nue or introduce into a Sinus or Cavity. A uterine Injection. *Moschion de Morbis Mulierum.*

ENCOPE, ἐγκοπή, from κόπτω, to cut. An Incision; and figuratively, an Impediment or Interception.

ENCRANIS, or **ENCRANION**, ἐγκρανίς, or ἐγκράνιον. The *Cerebellum*. See **CEREBRUM**.

ENCRASICULUS. The Anchovy. See **ANVA**.

ENE

ENCRIS, ἐγκρίς. A sort of Cake made of fine Meal boil'd in Oil, and then sweeten'd with Honey.

ENCRYPHIAS, ἐγκρυφίας. An Epithet for a sort of Bread. See **ARTOS**. It is derived from ἐγκρύπτω, to hide, or cover.

ENCYMON, ἐγκύμων, from ἐγκύω, to conceive. Preg- nant, with Child.

ENEDINEMENOS, ἐνδεδινημένος, from ἐνδινέω, to turn round like a Vortex. An Epithet for Eyes which are per- petually turning round in their Orbits.

ENDEIXIS, from δείκνυμι, to shew or indicate. An In- dication. See **INDICATIO**.

ENDEMIUS, Endemial. An Epithet for Diseases to which the Inhabitants of particular Countries are subject more than others, on account of their Air, Water, Situation, and manner of living.

ENDESIS, ἐνδεσις, from δέω, to tie. A Ligature, Band, or Connexion. *Ἐνδεσις τῆ ποδός*, "the Connexion of the Foot," in *Hippocrates, Lib. περὶ ὁσίων φύσ.* is that Part of the Foot where the Bones of the Tibia end, and which is connected by Ligaments to the Ankle-bones.

ENDICA, according to *Rulandus*, is *Fæces in Fundo*, "the Fæces in the Bottom." *Morienes*, he says, has thus written of it: "Seek the *Endica* in Glas-vessels, and reposit it, till it turns acid; for with dulcid Matter there is nothing to be effected. This *Endica*, added to Bodies, changes them into Earth, and preserves them from being burnt; for, when Bodies lose their Soul, they are easily burnt. *Endica* is serviceable to all Bodies, rendering them useful and vital, and preserving them from Putrefaction and Burning." It is also call'd *Mose hazuania*.

ENDIVIA LUTEA. A Name for the *Zacintha sive Cichoreum verrucarium*, the *Rhagadiolus alter*, and the *Hedypnois*; annua.

ENDIVIA VULGARIS. A Name given to several Species of the *Cichoreum*, which see.

ENDIVIA ERECTA. A Name for the *Hyoferis angustifolia*.

ENDOSIS, ἐνδοσις, from ἐνδίδωμι, to remit. A Remission. The Verb, whence it has its Signification, is used by *Hippo- crates*, as *Galen* says, *Com. 3. in Prognost.* and by all others since his Time, to express a Remission of Affections or Sym- ptoms; as when they say of an Inflammation, Tumor, Hard- ness, Tension, or Pain, it begins ἐνδέναι, that is, to remit. *Ἐνδοσις*, in *Galen, Com. 3. in Epid.* is a Remission in con- tinual Fevers, after their Exacerbations; where he makes ἐνδοσις to signify a Remission in continual Fevers, and ἀπυρεξία (*Apirexia*) in intermittent; but comprehends both their Sig- nifications under the Verb διαλείπειν.

ENDROMIS, a coarse shaggy Garment, used after Bathing, or violent Exercise.

ENEDRE, ἐνέδρε, from ἐν, in, and ἔδρε, a Seat; in *Hip- pocrates*, is an Infection, Location, and, *Lib. de Fract. νεβρίων ἐνέδρε*, as *Galen* explains it, are Impositions (ἐπιθέσεις) of Splints; where he says, that *Hippocrates*, by ἐνέδρε, meant the same as ἔδρε, but added the Preposition ἐν, to make the Signification of the Word clearer. *Ἐνέδρε*, *Lib. de Aure, Loc. & Aq.* are such as sit with great Firmness on Horseback.

ENELLAGMENOS, ἐνελλαγμένος, from ἐναλλάττω, of ἀλλάττω, to change. An Epithet applied to the Joints of the Vertebrae, because of their alternate or mutual Reception and Insertion.

ENEMA, from ἐνίημι, to inject. A Clyster.

The Words *Enema*, *Clyster*, and *Lotio*, are equivalent to each other, and signify any liquid Medicine, injected into the Anus, for the Cure of various Disorders incident to the human Body. The first of these Words is derived from the *Greek*, ἐνίημι, to inject, or thrust in; the second from κλύζω, to wash, or cleanse; and the third, which is the Word used by *Celsus*, to express the same Thing, from the *Latin* Word *lavare*, to wash. From this last, in all Probability, the *French* borrow the Word *Lavement*, which among them signifies a Clyster. In *Germany* and *Holland*, the Bladder of a Calf, a Sow, or an Ox, perforated at both Extremities, is almost universally used for this Purpose; see *Tab. 55. Fig. 12. Lett. A A.* These, for Children, may be small; but for Adults, must be so large as to contain a Pint of Liquor, or more. In one of the Per- forations or Extremities, a Pipe of Bone, represented by B B, is carefully fixed. Immediately above this the Bladder is tied close, by means of the large Thread C C, in order to hinder any of the Liquor from passing through the Pipe, till the Ope- rator intends it should. At the other Perforation, a Liquor suited to the peculiar Nature of the Disease is to be poured into the Bladder; after which, this Extremity of the Bladder, repre- sented by D, is also to be firmly tied, that no Part of the Liquor may be lost, whilst the Operator injects it into the Anus. Then the Pipe of Bone is to be anointed with Butter or Oil, and cautiously introduced into the Anus of the Patient, lying upon either Side, with his Head and Body lower than his Buttocks. Then loosening the Ligature C, made immediately above the Pipe, the Bladder is to be strongly compressed by the Hands

Hands of the Operator, in order to force the Liquor into the large Intestines. When this is done, the Pipe is to be retracted, and the Patient ordered to remain, as nearly as he can, in the same Posture, till the Medicine injected attempts its Regress or Discharge with a kind of Force or Violence; for, as *Celsus* observes, *the Patient is not to yield to the first Inclination of discharging this Liquor, but to retain it as long as he can.*

The *Dutch*, the *French*, and some other Nations, instead of a Bladder, use a Syringe made of Tin, and capable of containing a Pint, or more, of Liquor. The Pipe of this Syringe, which is introduc'd into the Anus, is not unlike that affixed to the Bladder; but 'tis sufficiently obvious, that by this means, Liquors are more quickly, more strongly, and, consequently, farther, convey'd into the Intestines, than by the Bladder, which, however, may be more easily carried about and conceal'd than a large Syringe; as also used with less Trouble and Pain for Infants, and Women in Child-bed. But as some Persons have so rigid a Regard to Decency, that they would rather submit to any Hardship, than expose their Posteriors to open View, those fall upon a proper Expedient, who apply to this Syringe a flexible leather Pipe, about half an Ell long, and furnished at its Extremity with a smaller Pipe of Bone, which the Patient himself, with his whole Body cover'd, may introduce into his Anus, and either inject the Liquor himself, or give the Syringe to some other Person, for that Purpose. The Reader, who desires to know more of this, may consult *Hildanus, Cent. 1. Obs. 78. Bartholin. Hist. Anat. 66. Cent. 6. De Graaf*, in his Book *de Clysteribus*; *Juncken*, in his Surgery; as also *Valentini's Polyphresta Exotica*, where these Syringes, together with the leather Pipe, and Method of using them, are delineated. But we must take care, that the Liquors used for Clysters be neither too hot, nor too cold, but tepid, or moderately warm; for the Intestines are generally greatly injur'd by Liquors either excessively hot, or excessively cold.

Celsus, in the sixteenth Chapter of his second Book, has the following Passage: "When, says he, the Case only requires a gentle Clyster, pure Water may answer the End. But if one somewhat more powerful is wanted, Hydromel must be used. If a lenitive Preparation of this kind is wanted, let Water, in which Fenugreek, Barley, Mallows, or any other emollient Herb, have been boiled, be used for that Purpose. If a Clyster of a restraining Quality is desired, let it be prepar'd of *Vervain*. [*Celsus, in all Probability, by the Word Vervena, means all corroborating Herbs in general.*] If an acrid Clyster is desired, it may consist of Sea-water, or common Water, with an Addition of Salt; but both of these are so much the better, if boil'd. A Clyster of a still more acrid Nature, may be obtain'd by an Addition of Oil, Nitre, or Honey, or all these together. The more acrid a Clyster is, the more Matter it evacuates, but is less easy to be supported by the Patient." If a lenitive or demulcent Clyster is to be injected in the Stone or Dysentery, for Instance, we may either use warm Milk alone, or Milk boil'd with Chamomile, or Male Speedwell, with an Addition of Honey, or the Theriaca. Sometimes, in Imitation of *Galen*, Oil alone is injected in a Colic.

As for Clysters, they are very properly used, first, in Cases where a too costive State is to be removed, and the Body render'd soluble. Secondly, for alleviating those Pains which arise from the Colic, the Stone, the Dysentery, painful Hemorrhoids, and other Disorders of the Abdomen. Thirdly, for making Revulsions from the Head in Lethargies, Apoplexies, Deliriums, Phrenitis, and other Disorders of the Head. Fourthly, for promoting difficult Labours, whether the Fœtus is dead or alive, especially if the Mother is costive; as also for expelling the Secundines, when adhering too strongly to the Womb, or remaining longer in it than they ought. Fifthly, Clysters contribute not a little to the Nourishment of those, who, in consequence of an impair'd, or totally destroy'd, Deglutition, can eat little, or, perhaps, none at all. For this Purpose nutritive Liquors must be used, such as Broths of Flesh, Milk, or Ale; or Broths of Barley or Oats, duly prepared; to which a little Wine, if not contraindicated by the Nature of the Disease, may be added, for corroborating the Patient. By frequently injecting such Preparations, as far as they possibly can, into the Anus, the Patient is to be sustained and supported, till his Disorder and Difficulty of Deglutition are gradually removed. These nutritive Clysters are no new Invention, but were recommended by the ancient Physicians, especially *Celsus*, who for this Purpose order'd Pisan, or the Cremor of Alica. *Cribasius* also, and *Actius*, recommend these Sorts of Clysters; as does also *Avenzoar*. Though this Fact be sufficiently confirmed by History, yet it is equally certain, that there were among the Antients, and still are among the Moderns, Physicians who look upon them as entirely superfluous and useless. But, to pass over other memorable Instances recorded by Authors, I shall only take notice of the Woman mentioned in *Garengot's Operat. Chirurg.* who, notwithstanding a total Abstinence from Aliments for fourteen Days, in consequence of an obstructed De-

glutition, was not only supported, but cur'd, by means of nutritive Clysters; for in the large Intestines there are lymphatic or lacteal Vessels, capable of absorbing and conveying to the Mass of Blood the nutritive Liquors injected; by which means it frequently happens, that the Clyster does not return, but is totally retained.

An uncommon and efficacious Clyster, in Comparison of the others, is the Smoke of Tobacco, invented, in all Probability, by the *English*, and afterwards used by other Nations; for when other Clysters have proved ineffectual for rendering the Body soluble, especially in Persons labouring under an incarcerated Hernia, the Iliac Passion, or other Disorders, the End has been obtain'd by injecting a large Quantity of the Smoke of Tobacco into the Anus, by means of some proper Instrument. This affords a speedy Relief in the most obstinate Costiveness, provided it is used in due Time. The most considerable of the Machines used for this Purpose, are described by *Bartholine, Stiffer, Dekker, and Valentin*. See *Tab. 55. Fig. 13.* But however much these Machines may vary, yet they all agree in this; that they consist of a Brass or Iron Kind of Box, A, of such a Size, as to contain about half an Ounce of Tobacco, and furnished with two Pipes; one of which, B, is made of Bone, in order to be introduced into the Anus; and the other, C, in the Form of a Pipe, used for Wind in musical Instruments. It is made of Brass, Bone, or Ivory; and either the Patient himself, or some strong Man, blows the Smoke of the Tobacco in the Box A through the Pipe B into the Anus. This Smoke must be injected, till the Patient perceives a strong Stimulus to discharge his Excrements. If performing this Operation once does not render the Body soluble, it is to be repeated, till that End is obtained. In like manner, if the common Tobacco should prove too weak, we are to use such as is stronger; for when, in an obstinate incarcerated Hernia of the Særotum, no Effect could be produced by common Tobacco, I myself, says *Heister*, have seen the Intention answer'd by such as was stronger, when the Patient's Life was despair'd of. This Method has always succeeded so happily with me in this Disorder, that I was never reduced to a Necessity of having recourse to the Knife; for the acrid Smoke of Tobacco so stimulates the Intestines, as to contract their Diameters, and by that Contraction the prolapsed Intestines are retracted into the Abdomen. *De Graaf*, and *Lanzoni*, have published Dissertations on Clysters; to which the Reader may have recourse. *Heister, Chirurg.*

Among the Medicines of the internal, domestic, and easily prepar'd Kind, we may justly reckon Clysters, which are generally but a Decoction, prepar'd of certain Ingredients, and, with various Intentions, injected into the Anus, by means of a Syringe, or Bladder. These have many Things in common with Baths; for these latter wash the external Parts; whereas the former cleanse, absterge, and unload the large Intestines of their Contents. Baths are either emollient or corroborative. Clysters, in like manner, according to the Ingredients of which they consist, either soften and relax the Solids, when affected with Rigidity, Tension, or Stricture; or they corroborate and brace up such Parts as are relaxed, and deprived of their due Tone. As Baths only, by an external Application to the Body, convey a certain Virtue to the whole Mass of Blood and Humours, so as to render their Circulation more free, and facilitate the salutary Secretions; so also Clysters not only influence the Mass of Blood and Humours, as is obvious from the Change they induce on the Pulse; but also, besides the Evacuation they procure by Stool, promote the Excretion by Sweat and Urine. Baths are possessed of an excellent antispasmodic Virtue, which is so extensive as to influence the most remote Parts of the Body. This Quality is no less remarkable in Clysters, as Practitioners well know. As, by Bathing, preternatural and dangerous Congestions of Humours in certain Parts are derived to other external and inferior Parts, that they may circulate more freely and equably, so in like manner Clysters are highly efficacious in deriving Congestions of Blood from the Head and Breast, which are the Causes of very terrible Symptoms.

Clysters are prepared of different Ingredients, according to the different Intentions proposed; and, as in Practice the four principal Intentions are to alter and change, to evacuate, to corroborate, and to allay and mitigate Pain, so Clysters of different Kinds are so calculated, as either to soften the indurated Faeces, correct the highly acrid, acid, and saline Recrements, evacuate the Contents of the large Intestines, corroborate the weak and languid Fibres of the Intestines, and augment their impair'd peristaltic Motion; or, lastly, to mitigate the Spasms of the intestinal Coats, and relax their contracted Fibres. When the Intention is to lubricate and soften dry and indurated Faeces, or to obtund acrid, saline, corrosive, and acid Humours, in the large Intestines, Clysters are most properly prepar'd of emollient and demulcent Substances; of which Kind are the Milks of Animals, Decoctions of the Shavings of Hartshorn, Sheeps and Calves Feet, as also of Oats, pinguious Flesh-broths, the Fats of Animals, fresh Butter, Decoctions of Figs, Honey, Manna, Sugar, Decoction

Decoctions of the Roots of Marsh-mallows, white Lilies, Linfeed, Fenugreek, and the Flowers of Chamomile, Mullein, and Melilot. As all these Ingredients are possessed of a Power of relaxing Spasms, so they are of singular Service in all spasmodic Disorders, Fevers, Pains, Congestions of Blood, and Cases where the Patient is costive, either in consequence of Spasms, or an Induration of the Fæces.

When the Intention is, at one and the same time to evacuate the Fæces, and carry off the stagnant Humours, Salts added to the above-mentioned Decoctions excellently answer the End; such as common Salt, Sal Gemmæ, *Epsom* and *Sedlitz* Salts, the digestive Salt of *Sylvius*, and Sal Ammoniac: And 'tis certain, that half an Ounce of Salts added to a Clyster is more efficacious in evacuating the Contents of the Intestines, than some Ounces of the Electuaries prepar'd of purgative Ingredients. For answering this Intention, *Celsus* orders Brine to be injected into the Anus; and the same Effect is produced by our Brine, which is a powerful Purgative, whether drank, or injected as a Clyster: The same holds true of the *Sedlitz* Waters: Among these we may also class the Clysters prepared of human Urine, or that of other Animals, in order to eliminate the tough and viscid Humours. *Venice* Soap dissolv'd is also an excellent Ingredient for Clysters, especially in Cases where an acid, green, and corrosive Bile proves highly offensive to the Intestines of sucking Infants. But in Cases where a more powerful Stimulus is requir'd, 'tis more safe and expedient to mix Emetics with Clysters, than strong and drastic Cathartics; for which Reason, *Derebeque*, in his Observations, orders emetic Wine to be mix'd with Clysters, exhibited in Dropsies and Apoplexies.

Corroborating Clysters are intended not only for the Intestines, but also for other Parts depriv'd of their due Tone; for which Reason they are also compos'd of various Ingredients, according to the Intentions propos'd: Thus, when the weak and languid Coats of the Intestines are to be corroborated, Carminatives are to be used, which discuss Flatulences, and promote the Evacuation of any recrementitious Matter, that may be lodg'd in the Intestines. The most considerable and efficacious of these are, the Four greater carminative Seeds, the Oils prepar'd from them, and the Berries of the Bay and Juniper-trees: In violent Disorders of the Head; such as Apoplexies, Palsies, Lethargies, and Dulness of Hearing, or Weakness of Sight; the Herbs Rue, Marjoram, Rosemary, Savory, Thyme, Sage, and the Flowers of Lavender and Spike, are commodiously added to Clysters. In Disorders arising from a bad State of the Womb, especially a Want of due Tone in its Fibres; the Herbs Penny-royal, Mugwort, Feverfew, Savin, Mint, Wall-flowers, Marigolds, the Root of Birthwort, as also Myrrh and Galbanum, are possess'd of a singular and specific Kind of Quality; and Clysters prepar'd of them, if frequently injected, are of singular Efficacy in restoring the Menstrues, and expelling Moles.

I myself, says *Hoffman*, have also found, from Experience, that in chronical Disorders, arising from an Impurity of the Juices, a bad State of the Viscera, Infarctions, or Stagnations of the Humours, but especially in a Cachexy, a Scurvy, the hypochondriac Disorder, a Suppression of the Menstrues, and Hæmorrhoids, excellent Effects are produc'd by Clysters, with which bitter and balsamic Substances are mix'd; of which Kind are Marsh-trefoil, the Tops of the lesser Centaury, Carduus Benedictus, Gentian-root, Spleenwort, Rhubarb, Essence of Rhubarb, Elixir Proprietatis, the alcaliz'd Essence of Soot, Spirit of Hartshorn, and the Pilulæ Balsamicæ. *Hercules Saxonius*, in *Lib. 1. Prax. Cap. 16.* informs us, that, by the Use of such Clysters alone, he had recover'd Patients so far gone in hypochondriac Disorders, that their Recovery was absolutely despair'd of. Excellent corroborative Clysters, says *Hoffman*, may also be prepar'd of Wine; to which, if the Patient's Strength is languid, and his Constitution not over-delicate, may be added, a sufficient Quantity of my Balsam of Life, describ'd under the Article ELIXIR. In the *Philosophical Transactions*, mention is made of a Clyster, prepar'd of Spanish Wine, Pepper, and the Yolk of an Egg: This is said to be of singular Efficacy; because, being retain'd all Night, it warms the Intestines, and, a few Hours after its Injection, excites a Diaphoresis: Besides, so remarkable is the Power of Clysters, in corroborating the whole nervous System, that in intermittent Fevers the Paroxysms are mitigated and ally'd by them; for *Mekretius*, in a particular Treatise concerning the Method of curing Fevers without the Assistance of internal Medicines, affirms, that they may be excellently cur'd only by injecting Clysters, consisting of a Decoction of *Peruvian* Bark with Water, to which may be also added a little Wine: And *Albrecht*, in *Miscel. Nat. curios. Decad. 3. an. 3. Obs. 127.* gives us five Instances of Fevers cur'd by this means. The *Egyptians*, in quartan Fevers, as an Arcanum, use a Clyster prepar'd of one Pint of the Decoction of Marjoram, and three Ounces of the Oil of Bays, as we are inform'd by *Prosper Alpinus*, de *Medic. Method.* where we find this Passage: "Some time ago, I myself, when labouring under a quartan

"Fever, found singular Benefit from this Clyster; and I have known some totally cur'd of the same Disorder, by having it only thrice injected."

The last Species of Clysters are those of the sedative Kind, or such as are calculated for alleviating Pain, and removing Spasms: Among these are Clysters consisting purely of Oils, the Fat of Animals, and fresh Butter; which are of singular Efficacy, when the Coats of the Colon are so violently and spasmodically constricted, that its Cavity is contracted, the Flatulences retain'd, and violent Gripes produc'd, as in the convulsive Colic, and, especially in the hæmorrhoidal Colic, and that which is excited by the Repulsion of an acrid caustic Matter from the Surface of the Body. Among the Antients *Aetius* bestows large Encomiums on Clysters of this Kind; and, in *Book 9. Cap. de Colica*, orders an antispasmodic Clyster to be prepar'd of fresh Butter, the Fat of a Goose, and of an Hen, the Marrow of an Hart, the Fat of a Bear, Cumini, the Leaves of Rue, Celtic Spikenard, Castor, and the Oil of Rue, adding the following Direction: "Use, says he, this Clyster in the most violent Pains, previously procuring an Evacuation by means of another Clyster; an Hour after which, inject a moderately small Cupful of this Clyster, tepid, ordering the Patient to keep himself in a State of Rest, and to retain it for some time; by which means you will be convinced of its divine and singular Virtues." But if to Spasms an intense Heat, and Orgasm of the Blood, are join'd, as in Hæmorrhages, or Pains of the Head and Joints, Clysters prepar'd of Whey or Milk, with emollient and anodyne Substances, are most properly injected; such as the Flowers of common Chamomile, Elder, Mullein, and Melilot, as also Saffron, depurated Nitre, and Oil of sweet Almonds: In spasmodic Disorders, epileptic and convulsive Motions, 'tis customary to add the Specifics for those Disorders. In hysterical Affections, Sagapenum, Asa-scetida, and Castor, are properly added to them; and, in epileptic and convulsive Paroxysms, the Roots, Seeds, and Flowers of Piony, the Juice of Earth-worms, and the succinated Spirit of Hartshorn, are, with great Advantage, mix'd with the Clysters to be injected. *Harder*, in *Miscellan. Nat. curios. Decad. 3. an. 2. Obs. 100.* informs us, that he knew a Woman, in her first Labour seiz'd with an Epilepsy, surprisingly reliev'd by a Clyster of this Kind, prepar'd of antiepileptic Ingredients, and Tincture of Castor.

Clysters then, according to the different Intentions of the Physician, are of singular and various Uses; which by *Celsus*, in the twelfth Chapter of his second Book, are succinctly enumerated in the following Words: "We must not forget to render the Body soluble, by the Injection of one, or, at most, of two Clysters. When the Head is afflicted with a heavy Pain; when the Sight is dim; when the Patient is seiz'd with a Disorder of the large Intestine, by the *Greeks* call'd *Colon*; when there are Pains of the Abdomen and Hips; when there is a Collection of bilious Matter in the Stomach; or, when Phlegm, or any Humour resembling Water, is lodg'd in it; when Respiration is difficult; when nothing can be evacuated by Stool; when the Fæces are near the Anus, but yet cannot be voided; when the Patient, voiding nothing by Stool, perceives the Smell of Fæces in his Breath; when the Matter evacuated by Stool is corrupted; when Abstinence, in the Beginning of a Fever, does not remove it; when the Strength will not admit of Venesection; when otherwise indicated, or when the proper Season for Venesection is already past, or when the Patient has drank much before his Disorder; or when Persons often subject to a spontaneous or accidental Purging, suddenly become costive." Besides what has been above observ'd, with respect to the Use of Clysters in various Diseases, we must also take notice, that, in general, they are excellently calculated for those who, being costive, have, at the same time, Stomachs so weak, as not to bear purgative Medicines. In all continual and exanthematous Fevers, 'tis also most expedient to attempt the Cure by Clysters and Venesection, if necessary; and if, after the Venesection, the Patient should remain costive, the Use of Clysters is to be still persisted in. *Christianus Langius*, in *Miscel. Nat. curios.* warmly recommends the Use of Clysters to all wounded Patients, lest a costive State of the Body should increase the Inflammations or Stagnations of Blood. Clysters may also be calculated for other Purposes, than those already enumerated, according to the respective Causes and Natures of Disorders: Thus in Diarrhoeas, Dysenteries, and Corrosions of the Intestines, Clysters are with great Advantage injected, not only with a View to correct the acrid Humours, but also to consolidate the excoriated and corroded Parts: The Clysters for this Purpose ought to be compos'd of Decoctions of Calves Feet, Yolks of Eggs, Goat's Suet, *Armenian* Bole, Tragacanth, the Juice of the Cray-fish, Sperma-ceti, and the Balsams of Capivi and of Sulphur, with Oil of Turpentine.

Tho' Clysters only immediately affect the Intestines, and tho' the Materials of which they are compos'd do not pass beyond

beyond the large Intestines; yet their Virtues are not only convey'd from the Intestines, which, being nervous Parts, have an exquisite Consent with others of the same Kind, to the remote Parts of the Body, but also insinuate themselves into the Mass of Blood and Lymph: The former of these Affections is obvious from this, that too acrid Clysters, according to *Avicenna, Can. Med. Lib. 1. Sect. 4. Cap. 17.* bring on Fevers; and those mixed with Emetics, excite Vomiting: Pains also of the superior Part of the Body are remov'd by them: The latter is confirm'd by their nutritive, comforting, and stupefying Quality, as also by a Circumstance mentioned in the *Philosophical Transactions*, which is, that Brandy injected into the Anus, intoxicates more effectually, than the same Quantity drank by the Mouth: But the Effects of Clysters are most conspicuous in the small Intestines, when afflicted with Pains and spasmodic Constrictions; for this Reason, that the Colon, the largest of the great Intestines, surrounds the small ones: Wherefore, when an emollient and paregoric Clyster is injected into it, the Clyster, by its mild and grateful Tepidity, affects the contiguous Intestines at the same time; and its Vapours, penetrating their Coats, convey the same Virtues into them, just as a Bladder, fill'd with an emollient Decoction, and applied externally, affords a singular Relief, in violent Pains, Spasms, and Inflammations of the internal Parts.

But that the salutary Effects of Clysters may be the more successfully obtain'd, they must, like other Medicines, be cautiously and circumspectly us'd; for there are some Persons of so tender and delicate a Make, that their Intestines are absolutely incapable of bearing Clysters; and I myself have seen Colics, and other Disorders, increas'd, by injecting Clysters, tho' these very Patients were afterwards remarkably reliev'd by a proper Laxative, exhibited internally: As, in Patients of this Kind, the Injection of Clysters is not to be insisted on; so also acrid Clysters are not to be at first us'd in Cases where the Excrements are too long retain'd, lest they draw more to the infarcted Intestines, and confirm the Obstruction; but, before these, we are rather to inject such Clysters as relax, lubricate, and soften the Fæces, and prepare a Way for their Evacuation, as *Mercatus, in Book 1.* with Judgment advises. Immediately after Meals, the Injection of Clysters is less commodious and beneficial, because they disturb the Concoction and Digestion of the Aliments, prevent the Extraction and Elaboration of the Chyle, and promote too speedy an Evacuation of what the Patient has eat.

Nor is it expedient too frequently to render the Body soluble by the Injections of Clysters, both because they weaken the expulsive Faculty of the Intestines, and render Nature, when accusom'd to them, forgetful of her Office; and because, by a sudden and frequently repeated Injection of Clysters, that are either too hot, or too cold, the due and natural Tension of the intestinal Fibres is injur'd, and preternatural Commotions produc'd; and since no Clyster can be injected, without conveying Air along with it, 'tis to be dreaded, lest too frequent an Use of them should generate Flatulences: Besides, as the large Intestines are Parts of a very nervous Contexture, all Substances which are unfriendly to the Nerves, such as cold, acid, austere, drastic, virulent, and astringent Substances, as also the more acrid Salts, Opiates, and Narcotics, are by no means to be us'd in Clysters, lest the peristaltic Motion of the Intestines should be injur'd or destroy'd; which, when entire, assists greatly in carrying on the Digestions, and the salutary Secretions and Excretions: But when it is injur'd or destroy'd, the Intestines are rack'd with Spasms, fill'd with Fæces or Flatulences, and subjected to various Disorders. *Celsus* gives us, also, the following Directions: "We are not to use Clysters, so long as the Humours are crude, nor in weak Constitutions, and such as are exhausted by chronical Disorders; nor in those who have, daily, sufficiently large Evacuations by Stool, or who discharge liquid Stools; nor are Clysters to be us'd in the immediate Paroxysms of Disorders; because what is then injected, being forcibly retain'd, affects the Head more, and renders the Danger greater." *Frederic. Hoffman.*

The common Decoction for Clysters is thus directed to be made in the *London Dispensatory*:

Take of the Leaves of Mallows, Violets, Pellitory of the Wall, Beets, and Mercury, each one Handful; of Chamomile-flowers, two Pugils; of sweet Fennel-seed, half an Ounce; of Linseed, two Drams; and boil them in a sufficient Quantity of common Water to strain off one Pint.

With respect to the emetic Power of Clysters, mention'd above, I must remark, that in a maniacal Case, where there was great Difficulty in exhibiting proper Medicines by the Mouth, and where the Patient was so obstinately coltice, that no Evacuations could be procur'd without immoderate Doses, I directed a Clyster, with which an Ounce of *Mel Hellebori-*

tum was mix'd: This prov'd a violent Emetic, and was afterwards repeated several times, with very good Effects.

It is to be observ'd, that the Practice of the antient *Egyptian* Physicians turn'd very much upon Clysters; which, as *Pliny* informs us, they learnt from the Bird *Ibis*, who was observ'd, upon any Disorder, to inject Water into the Anus, by means of its Beak: And *Aesclepiades*, however he might disapprove of Purges, us'd Clysters in almost all Disorders.

ENEOS, ἐνός the same as CENOS; vain, empty, useless: in which Sense the Word is us'd by *Hippocrates, ἐν τῷ καὶ ἰνῆ.* The *Greeks* call such as are born deaf, and are unable to speak; or perform the common Offices of Life, ἐνός. And in the same Sense is the Word expounded by *Hesychius.*

ENEREISIS, ἐνέρεσις from ἐνέδω, to lean, lay a Stress, or be incumbent; is a Pressure, or violent Compression: Thus, in (*Lib. κατ' ἰντρ.*) μὴδὲ νάσθῃεν ἐνέρεσις ἔχει, "and that there be no Compression from the Splints." *Galen* explains the Words ἐνέρεσις, by βία, and θλίψις, "violent Pressure."

ENERGIA, ἐνέργεια from ἐργον, a Work. Efficacy.

ENERGOS, ἐνεργός from the same as the preceding. Active, and diligent. In *Hippocrates, Lib. de Aere, Locis, & Aquis*, signifies beneficent, civiliz'd, and humane.

ENERVATIO is an equivocal Word, signifying either the same as APONEUROSIS, which see, or Debilitation: *Adipis suillæ enervatæ curatæ*, is an Expression in a medicinal Composition, taken by *Marcellus Empiricus, Cap. 31. in Princip.* from *Scribonius Largus, No. 222.* who has it *Adipis suilli curati*; where *Rhodius*, in his Notes on this latter Author, observes, that *enervatæ* is a barbarous Sort of Interpretation of *curatæ*, and intended to signify, *cleansed from the little Fibres and Membranes*, which is the Meaning of *curatæ*. *Apicius Cælius, Lib. 5. Cap. 4.* uses indeed, *Cerebella enervata*, in the Sense of *Marcellus*; but then, as *Rhodius* observes, he wrote in a Time when Barbarism began to spread.

ENGASTRIMUTHOS, ἐγαστρίμυθος from ἐν, in; γαστήρ, the Belly, and μῦθος, a Speech. A Ventriloquist. See *ÆSCULAPIUS.*

ENGISOMA, ἐγίσσωμα, ἐγίσσωμα. A surgical Instrument, used about Fractures of the Cranium. See another Signification of it, under the Article CAMAROSIS.

ENGOMPHOSIS, ἐγὼμφοσις. The same as GOMPHOSIS; which see.

ENGONIOS, ἐγώνιος from γωνία, an Angle; angular; in *Hippocrates*, when apply'd to the Cubit; as ἐγώνιος ὀγκύς, signifies the Flexure thereof at right Angles; as *Galen* explains him in many Places.

ENGUAMBA URUVAPENSIIUM, *De Lact.* is a Tree of a moderate Bigness, growing in a stony Soil; with a redish Bark, a dark-colour'd Wood, a palish medullary Substance, broad and concave Leaves, distinguish'd by red and yellow Fibres; with pendulous, herbaceous, and cluster'd Flowers; and a black Fruit full of Kernels: From this Fruit they express a yellow Oil, which is good for Wounds, and to dissolve Tumors. *Ray, Hist. Plant.*

ENHÆMON, ἐναίμων. The Name of a Plaster in *Myrepsus*. See ENÆMOS.

ENIAUSION, ἐνιαύσιον from ἐνιαυτός, a Year; yearly, annual. *Ἐνιαύσιον νόσημα*, in *Hippoc. Lib. de Nat. Humani*, as *Galen* explains it, is a Disease, which leaves the Patient after a full Year from its first Beginning; or after a Period of seven Years; as others do after seven Months.

ENITÆON, ἐνιταῖον. The Name of a Simple in *Myrepsus, Antid. 332.* which his Annotator *Fuchsius* ingenuously confesses himself ignorant of.

ENIXA; the same as PUERPERA, or a Woman in Child-bed. *Enixum*, among the Chymists, is an Epithet apply'd to Salts of a third Kind, generated of an Acid and an Alkali; which is otherwise call'd *neutral*, and *third*, according to *Glauber.*

The *Sal Enixum Paracelsi* is the *Caput Mortuum* of the *Spiritus Nitri cum Oleo Vitrioli*, or what remains in the Retort, after the Distillation of this Spirit; of a white Colour, and pleasant acid Taste. If it be dissolv'd in hot Water, and crystalliz'd, it will be yet a more elegant Medicine, and endu'd with the same Virtues as the *Tartarum Vitriolatum*.

Its Operation is diuretic: The Dose is from one Scruple to one Dram, in Broth, or Water-gruel.

ENNEAPHARMACOS, ἐννεαφάρμακος from ἐννέα, nine, and φάρμακον, a Medicine; a medicinal Composition, consisting of nine simple Ingredients. It is the Name of a Pessary prescrib'd in Inflammations of the Uterus and Anus, *Gal. L. 9. de C. M. S. L. Cap. 6. Æginet. Lib. 7. Cap. 24. in Fin.* It is a Name, also, for the *Antidotus Heraclicus*, *Galen, Lib. 2. de Antid. Cap. 4.* and for several Plaisters in *Actius* and *Celsus*.

ENNEAPHYLLUM, ἐννεαφυλλον from ἐννέα, nine, and φύλλον, a Leaf; a Name in *Ray* for the *Helleboraster*; because its Leaves are often subdivided into nine lesser ones.

ENOCH is, by the Spagirical Writers, generally supposed to be the same with *Hermes Trismegistus*. *Theatrum Chymicum*.

ENOCHDIANUS, in *Paracelsus*, is one who equals the Prophet *Enoch* in Longevity: Hence *Enochdiana Vita*, with him, signifies an extraordinary long Life.

ENODIOS, ἐνὸδιος from ἐν, in, and ὁδός, Way; situated or placed in the public Way; is an Epithet of *Diana*, *Hecate*, or *Proserpina*; because her Image was commonly erected in cross Ways; whence she was called *Diana Trivia*. The Word ἐνὸδιος occurs in *Hippocrates*, *Lib. de Morbo sacro*; where, speaking of popular Prejudices, in attributing the Cause of the Epilepsy, which they called νῆσος ἱερὴ, *Morbus sacer*, in a particular manner, to the Divinity, he goes on to observe, that they ascribed the Cause of every Species or Symptom of this Disorder, to some particular Deity: Thus, for Instance, if the Patient, seized with a Fit of the Epilepsy, made a bleating Noise like a Goat, they attributed the Cause of the Distemper to the Mother of the Gods; if he cry'd out with a stronger and shriller Voice, they resembled it to the Neighing of an Horse, and made *Neptune* the Author; if the Patient, as it sometimes happened, could not retain his Excrements, Ἐνὸδιος παρόσκειται ἢ παροσσυμνῶν, the Disease took its Appellation from *Hecate Enodia*; if he evacuated but little, and frequently, like the Muting of Birds, *Apollo Nomius* was angry; and, if he frothed at the Mouth, and kick'd with his Heels, *Mars* was the Cause.

ENOMOS, ἐνωμός from, and the same as, ὠμός, crude; is expounded by *Galen*, *Com. in 5. Aph.* by σκληρὸς καὶ ἀσπίτυπος, "hard and resistant;" as it is there opposed to χαλνός, soft, lax.

ENRYTHMOS, ἐνρυθμός. See ARYTHMUS.

ENS. It is not my present Business to give the different Significations of this Word, as us'd by the Metaphysicians and Philosophers: It may suffice to observe, that *Ens* implies an Entity, or Thing really existing. In *Paracelsus*, however, *Ens* imports the Power, Virtue, and Efficacy, which certain Beings exert upon our Bodies: Thus he mentions the *Ens Astrorum*, the *Ens Veneni*, the *Ens Naturale*, the *Ens de potentibus Spiritibus*, and the *Ens Dei*. This Author, in his *Treatise de Renovatione & Restitutione*, speaks much of the *Ens Primum* of Minerals, Gems, Herbs, and Liquors; by which he means, the Parts in which their Virtue or Efficacy reside, or the very Virtue or Efficacy itself.

With respect to the *Ens Primum* of Plants, there is the following celebrated Passage in *Boyle*:

If we may believe the ingenious Chemist to the *French King* (*M. le Febvre*) a single Herb, by pure Skill, without the Assistance of Fire, may afford a nobler Medicine than any of the elaborate Compounds to be met with among vulgar Chemists. This efficacious Part of a Plant, *Paracelsus* calls its *Ens primum*, whose Process for obtaining whereof I should never have thought worth trying, but for what the experienced Chemist above-mention'd told me, from his own Observations; for he, as well as *Paracelsus*, ascribes a renovating Power to the *Ens primum* of Balm; and assured me, in the Presence of a famous Physician, to whom he appeal'd for the Truth of his Relation, that an intimate Friend of his, being possess'd of this Preparation, made Trial thereof upon himself, by taking a small Quantity every Morning, in Wine, for a Fortnight; long before the End of which, he found the Nails of his Fingers and Toes to loosen; which, at length, falling off insensibly, he proceeded no farther, being satisfied with the Tokens, which he reserv'd as a Rarity. But, upon giving the same Medicine, for ten or twelve Days, to a Woman about seventy Years of Age, without acquainting her with what he expected therefrom, it brought her Menfes down upon her again, so fresh as to frighten her, and stop the Prosecution of the Experiment. He added, that he also gave some Drops of it to an old Hen, for a Week; and, about the sixth Day after, she began to moult, and continued so, gradually, till all her Feathers dropt off; but regain'd new ones in a Fortnight. My Author also acknowledged, he had observ'd great Virtues in the *Ens primum* of the great *Scrophularia*.

His Method was to collect the Plant at a convenient Season of the Year, and proper Time of the Day; to beat it well in a Stone Mortar, and place it in a Bolt-head, and digest it for forty Days in a Dunghil; after which, he opens the Vessel, separates the grosser Part of the Liquor, and digests it in a gentle Bath, that the remaining Grossness may subside; then, filtering the Juice, he adds to it the fix'd Salt of the grosser Parts above-mention'd, dry'd and calcin'd. To this prepar'd Liquor, he puts good Sea-salt, purified, melted, and suffer'd to run per Deliquium. Then the Whole, seal'd up in a convenient Glass, is expos'd to the Sun, for about six Weeks; after which, there swims, on the Top of it, the *Ens primum* of the Plant, in a liquid Form, transparent, and either green, or red, or, perhaps, of some other Colour, as the Nature of the Vegetable determines.

The *Ens appropriatum* of Vegetables is, according to *Paracelsus*, the peculiar medicinal Virtue or Efficacy of Vegetables, which is different in every Plant, and appropriated to every individual Plant.

ENS VENERIS.

1. Take the Colcothar, remaining after the Distillation of Spirit and Oil of Vitriol, from Goslar Vitriol; put it into a large Crucible, cover it with a Tile, and set it in the hottest Part of the reverberatory Furnace; and there let it stand ignited the whole time of the Operation: By this Calcination it will turn very red: Then boil this Colcothar in Water; keeping it well stirred in a Glass Vessel; strain the Liquor hot; it will have the Taste of Vitriol; pour fresh Water to the Remainder; boil, and strain, as before; and continue this so long as the Water, even by boiling, acquires any Taste. At length, keep the remaining fine red Powder, under the Title of the dulcified Calx of Vitriol. If the former pure Liquor be inspissated, it will still yield a kind of yellow Vitriol: Whence we learn how wonderful a Body Vitriol is, with respect to its Fixedness in the Fire, even in its saline Part.
2. Take an equal Part of this dulcified Calx of Vitriol, and the dried Flowers of Sal Ammoniac; grind them in a hot Glass Mortar, with a Glass Pestle, for a considerable time, till they are perfectly mixed, but with Care to prevent their growing moist: For this Reason they should be ground on a clear dry Day, and in a warm Place. Put the Powder into a low earthen Body; fit on a wide Alembic-head, with a wide Pipe; apply a small Receiver; place the Vessel in a Sand-furnace, so as almost to touch the Iron Pot; half-bury the Body in Sand, and raise a Fire by degrees: There first comes over a sharp, volatile, yellowish Liquor, of an intolerable Odour, and an exceeding sharp fiery Taste, the Fire being increased, and the Liquor drove over: First white, then yellow, and soon after very red Flowers will rise: Continue the Fire for six Hours, making it so strong, at last, as to almost ignite the Iron Pot. Let all cool; there will be found, in the Head, and upper Part of the Body, a beautiful red, saline, astringent Sublimate, very like the Flowers of Iron. Let it all be carefully taken out, and directly put into a dry Glass: A Matter will be found at the Bottom, of an austere Taste, that easily swells, and, in some measure, runs in the Air. But the Production will be different, according as the Vitriol was from Copper, or Iron.

REMARKS.

Here we see the metallic Part of Vitriol, that remained so fixed in the Fire, is rendered volatile by Sal Ammoniac. The Nature of this Iron, from Vitriol so calcined, is nearly the same in the Flowers, as in crude Iron sublimed with Sal Ammoniac; and might, therefore, rather be called *Ens Martis*, than *Ens Veneris*. When prepared from the Calx of blue Vitriol, it then deserves to be called *Ens Veneris*. And hence we may understand the Death and Resurrection of Metals, mentioned by *Paracelsus*. A small Proportion of this Sublimate turns a large one, of the Infusion of Galls, to Ink. Mr. Boyle promises great Effects from this Remedy, in Distempers proceeding from a Weakness of the Solids, as in the Rickets, or the like; and it is highly serviceable therein. *Helmont*, also, in the Treatise he intitles *Butler*, greatly commends a like Preparation. But as even after the utmost Violence of the Fire sustained, both in a close and an open Vessel, there remains something vitriolic, it is no Wonder, that the Fumes of Vitriol continually remain, how long soever the Distillation be continued: Doubtless this wonderful Body deserves to be examined. *Boerhaave's Chemistry*.

Boyle says, that the *Ens Veneris* should be of a yellow Colour; and, if not, he directs it to be return'd to the Caput Mortuum, and to be re-sublimed.

This *Ens Veneris*, says the above-quoted Author, has proved so successful, that I may safely say, two or three hundred Children have, through my means, been cured by it; and that almost always without the Help of other inward Medicines, or topical Application.

The Dose is two or three Grains, to little Children; ten, or twelve, to grown Persons, and sometimes twenty or thirty, in distilled Water, or small Beer, but not in Milk. It may be given at any time, upon an empty Stomach; but I most commonly give it at Bed-time. When it operates sensibly, it is by Sweat, and sometimes by Urine. I exhibit this Medicine, also, in Fevers, and other Diseases, to procure Sleep; which it does more safely than opiate Preparations. It is also powerful against Worms, Obstructions of the Menfes, and to strengthen the Appetite.

ENSIFORMIS, ἐξοειδής. The Name of a Cartilage, which grows to the lower Part of the Sternum; and is so called because it resembles a Sword.

ENSTACTON, ἐνστακτόν from ἐσθύνω, to distil. Instillations. The Name of a liquid Collyrium in *Galen, Lib. 4. de C. M. S. L. Cap. 7.* called by *Ægineta, Lib. 7. C. 16. σακιδόν, Stacticon.*

ENSTASIS, ἐνστασις, from ἐνίστημι, (of ἐν, in, and ἵστημι, to stand, to stand in, to inhere, or be fixed in a Station) Lodgment, or Inhesion, was a Word very familiar with *Erasistratus*, and *Asclepiades*, who was a Follower of *Democritus*, and taught, that Diseases were caused by an Ingress of Molecules into the Vacuities of the Pores, and obstructing them; which Ingress and Infusion he expresses by the Term *ἐνστασις*. Thus much we may learn from *Celsus*, in his Preface. And *Cælius Aurelianus*, in his Preface to acute Distempers, tells us, that *Asclepiades* defined a Phrensy, to be a Station, or Obstruction, of Corpuscles in the Membranes of the Brain. This *ἐνστασις* is also mentioned by *Plutarch*, in his Precepts for Health; and *Galen, Com. in 6 Aph. 31.* And *Cassius*, who is supposed to have been of the Sect of the Rationalists, *Prob. 76.* expresses the same in very plain Words.

ENTALE. A Vessel. *Rulandus.*

ENTALI. Fossile Alum. *Rulandus.*

ENTALIUM, Offic. Schrod. 5. 328. Charlt. Exer. 63. Scyll. 137. Tab. 18. n. 6. *Dentalium primum & quartum.* Aldrov. de Aquat. 283. *Antales.* Gesn. Aquat. 345. *Tubulus dentalis striatus.* Lang. Meth. Testat. 5. *Tubulus, aut Siphunculus maris.* Bonan. 91. *Dentale viride striatum, maximis striæ raræ majusculæ admodum extantes, minimis striæ densæ & tenuiores.* Liff. Hist. Conch. 4. Sect. 2. n. 1. *Denticuli Elephantis.* Rumph. 125. Tab. 41. 1. Valent. Mus. Mus. 187. **THE ENTAGLIA.**

This is much longer and thicker than the *Dentalium*, but very like it in other respects, only deeply striated, or ridged; and the Ridges are, for the most part, of a green Colour. It is imported from the *East Indies*: And both this and the *Dentalia* are but little used in Medicine; though, probably, they may be serviceable for the same Purposes, and in the same Disorders, as other Substances of the testaceous Kind. The *Entalia* are Shells, or Coverings, for a Sort of Sea-worm.

The modern *Italians* call all Stones, Metals, or Woods, cut in with Lines or Figures, or barely chaneled, *Entaglia*; from whence, and from the Nearness of the Word *Dentalium*, the learned and ingenious Dr. *Lifter* conjectures the Name *Entalium* to have its Original. *Dale.* See **ANTALIMUM**.

ENTASIS, ἐνστάσις, from τέννω, to distend, or stretch. A Distention. The Word is used by *Hippocrates, de R. P. I. A.* and in the *Epidemics*. Sometimes he uses τάσις, tasis, and ἐνστάσις, *Entasis*, in the same Sense. "ἐνστάσις, in *Hippocrat. Lib. πειρὲς εὐχρημοσ.* signifies a decent and commanding Austerity becoming a Physician, when he reprehends the Patient, for indulging his Desires in Prejudice to his Health, or transgressing the Rules prescribed. Τὰ ἐνταστικά, *Medicamenta entatica*, are Medicines for provoking Venery, called by *Cælius Aurelianus, Acut. Morb. Lib. 3. Cap. 18. Satyrica.* And *Paulus Ægineta, Lib. 7. 17.* prescribes a Plaster, which he calls ἐνταστικόν, for the same Purpose.

ENTATICOS, ἐντατικός, from ἔλκασσις. See the preceding Article.

ENTERADENES, ἐντερὰδένες, from ἔντερον, an Intestine, and ἀδὴν, a Gland. The Intestinal Glands.

ENTERENCHYTTÆ, ἐντερὲνχύτται, from ἔντερον, the Viscera, and ἐγχύω, to infuse. Chirurgical Instruments for administering Clysters. *Scultet. Armament. Chirurg.*

ENTERIONE, ἐντερών. The same as **ENCARDIUM**, which see.

ENTEROCELE, ἐντεροκήλη, from ἔντερον, an Intestine, and κήλη, a Hernia. An Intestinal Hernia. See **HERNIA**.

ENTEROEPIPLOCELE, ἐντεροεπιπλοκήλη, from ἔντερον, an Intestine, ἐπιπλοή, the Omentum or Cawl, and κήλη, an Hernia. A kind of Hernia; for which see **HERNIA**.

ENTEROHYDROCELE, from ἔντερον, an Intestine, ὕδωρ, Water, and κήλη, an Hernia. A Dropsy of the Scrotum, complicated with a Descent of the Intestine. See **HERNIA**.

ENTEROMPHALOS, ἐντερομφαλός, from ἔντερον, an Intestine, and ὀμφαλός, the Navel. An *Hernia umbilicalis*, the same as **OMPHACELE**, which see.

ENTERON, ἔντερον, from ἐντός, within. Internal, an Intestine. See **COELIA**. "ἔντερον, in *Hippocrates, 6 Epid. Sect. 4. Aph. 3.* signifies, simply, the Colon, as *Galen* observes in his Comment on the Place, where he rejects the Opinion of those who take it for the Cæcum. "ἔντερον, in *Lib. 3. de Morb.* signifies Sacks, or Bags, in which were inclosed Medicines for Fomentations; perhaps, as *Foetus* says, because not only the Bladder, but the Intestines, may be accommodated to that Use.

VOL. II.

ENTEROPHYTON VULGARE. *Fucus tubulosus in testinorum forma.* Inst. *Laetuca marina tubulosa.* Raii, **SEA CHITTERLING.**

This is a submarine Plant, so called from its being hollowed like an Intestine. It grows in deep Ditches, principally near the Sea.

I do not know that it is used in Medicine.

ENTERORAPHE. A Suture of the Intestines. See **ABDOMEN**.

ENTEROSARCOCELE. A Species of Hernia; which see under the Article **HERNIA**.

ENTEROSCHEOCELE, ἐντεροσχέοκήλη, from ἔντερον, an Intestine, σκῆχον, the Scrotum, and κήλη, an Hernia. An Hernia, when the Intestines descend into the Scrotum.

ENTHEASTICOS, ἐνθεαστικός, from ἐνθεός, divinely inspired, of θεός, God, in *Paulus Ægineta, Lib. 4. Cap. 14.* is one under a melancholy Affection, who imagines himself divinely inspired, and able to predict future Events.

ENTHEMATTA, ἐνθεμάττα, from ἐντίθημι, to put in. Medicines applied immediately to recent Wounds, in order to prevent an Inflammation, and stop the Hemorrhage.

ENTHETOS, ἐνθετός, from the same as the preceding, signifies, in general, any thing introduced; but, in particular, used to express such Medicines as are applied to the Nose, in order to stop an Hemorrhage. They are called, 4. *Ἐπιθετὰ ἐντρίχια.*

ENTHLASIS, ἐνθλασις, from ἐν, in, and θλάω, to break or bruise, is an Illusion or Contusion, which makes such an Impression, as leaves an external Cavity. *Hippocrates, de intern. Affect. Galen, Lib. 2. de Caus. Morb.*

ENTHUSIASMUS, ἐνθουσιασμός, from ἐνθεῖναι, to be divinely inspired, of θεός, God, is defined by the Author of the *Definitiones Medicæ*, to be a fanatic Percussion, or divine Inspiration; as when a Person, in performing the holy Rites of divine Worship, loses his Reason, and, in an Ecstasy, sees strange Sights, or hears the Noise of Drums or Pipes.

ENTOMON, ἐντομόν, from ἐν, in, and τέμνω, to cut. An Insect. See **INSECTUM**.

ENTRICHOMA, ἐντρίχωμα, from ἐν and τριχώμα, the Hair. A Name given by some to the utmost Edge or Extremity of the Eyelids, whence the Hairs grow.

ENTRIMMA, ἐντρίμμα, from ἐντρίβω (of ἐν and τριβω), to rub, grate, triturate. The same as **INTRITUM**; which see.

ENTROPE, ἐντροπή, ἐντροπία, from ἐντρέπω, to abash, or make ashamed. In *Hippocrates, τὸ ἐντροπίας.* it signifies Modesty; and is a Qualification he requires in a Physician.

ENTYPOSIS, ἐντύπωσις, from ἐντυπώ, to make an Impression, of τύπος, a Type, or Image formed by Impression. The Acetabulum of the Humerus; otherwise called the *Omscotyle* by *Pollux*; who says, it is the Articulation of the Shoulder and Arm.

ENUCLEATIO, Enucleation, is the taking out the Nut or Kernel of any Fruit.

ENULA CAMPANA. Elecampane. See **HELLENUM**.

ENULON, ἐνυλον, from ἐν and υλον, the Gums. According to *Pollux*, it is the internal Flesh of the Gums; as the υλον (*Ulon*) is the external; and ὀξύς (*Harmus*), the Flesh of the Gums between the Teeth.

ENUR. The occult Vapour of Water, of which Stones are generated. *Rulandus. Johnson.*

ENYPNION, ἐνυπνιον, from ἐν, and ύπνις, Sleep. A Dream. See **INCOMNIUM**.

ENYPOSAPROS, ἐνυπόσαπρος, from ἐν, within, ύπό, a Preposition having the Force of a Diminutive, in Composition, and σαπρός, putrid. Somewhat putrid within. An Epithet in *Cæc. 446.* applied to the Spit of hepatic Patients.

ENYSTRON, ἐνύστρον, according to *Ariftole, Lib. 2. Animal.* is a second Ventricle, or a thick Part of the Stomach, in ruminating Quadrupeds, in which the Food is elaborated and concocted. *Goræus* makes it the same with the **ANOMALUM**, which see.

EON, ὄν. The whole Ambit, or Compass, of the Eye. *Goræus* from *Pollux.*

EPACMASTICOS, ἐπακυματικός, from ἀκμή, the Top, or Summit. An Epithet of a Fever, which is continually increasing; and is the same as *ακασμάσις (Anabaticus)*. See **ANABASIS**.

EPACROS, ἐπακρός, from ἀκμή, the Top. Ending in a sharp Point. *Hippocrates, Lib. 2. de Morb.* and *Galen's Exegetis.*

EPAGOGION, ἐπαγωγιον, from ἐπάγω, to induce, or cover over. The Prepuce. *Diocorides, Lib. 3. Cap. 25.*

EPANACLESIS, ἐπανακλήσις, from ἀνακαλέω, to recal. A Recalling or Revocation. "Ἐπα ἀκλήσις θέρμης, "A Revocation of Heat." 5 *Aph. 21. & Lib. ύγι. χύσ.*

EPANADIDONTES PURETI, ἐπαναδιδόντες πυρετι, in 6 *Epid. Sect. 6. Aph. 17.* are Fevers, which, in the Beginning, are not mordacious [δακνόντες] to the Hand; but, in their

their Progress, increase in Heat, and are sensibly biting to the Touch. They are opposed, as *Galen* says, to those Fevers, which are acute, but κατὰ μέρος τῆς χειρὸς, “gentle, and yielding to the Touch.”

EPANADIPLOSIS, ἐπαναδίπλωσις, from διπλῆς, double. A Reduplication. The same as ANADIPLOSIS, which see.

EPANALEPSIS, ἐπαναλήψις, from ἐπαναλαμβάνω, to repeat. A Repetition. The same as ANADIPLOSIS, which see.

EPANASTASIS, ἐπανάστασις, from ἐπανίστημι, to excite, or raise. A Tumor, or Tubercle. The Word occurs in *Coac.* 220. where we are told, that Tumors about the Eyes [ἐπαναστάσεις παρ’ ὀφθαλμῶν], upon the Recovery from a Distemper [ἐν τῇσιν ἀνακομιδῇσι], prognosticate a Flux of the Belly.

EPANCYLOTOS, ἐπαγκυλωτός, from ἀγκύλος, crooked, winding. A sort of Bandage in *Oribasius*.

EPANTHEMA, ἐπάνθημα, or,

EPANTHISMA, ἐπάνθισμα, from αἶθος, a Flower. An Efflorescence. *Hippocrates*, i *Prorrhet.* and *Coac.*

EPANTLESIS, or ENCATANTLESIS, ἐπάντλησις, from ἐπαντλῆω, to pour upon. In *Lib. de Rat. Viét. in Morb. acut.* signifies a Perfusion with Water, as performed by the Attendants on the Baths.

EPAPHÆRESIS, ἐπαφαίρεσις, from ἐπι, importing Repetition, and ἀφαίρεσις, a Removal, or taking away. In *Galen*, it signifies, particularly, a repeated Evacuation by Phlebotomy.

EPAPHROS, ἐπαφρός, from ἀφρός, Spume. Spumous, frothy. Frequently applied by *Hippocrates* to the Stools.

EPAR. See HEPAR.

EPARGEMOS, ἐπάργεμος. An Epithet for a Person affected with that Disorder of the Eye called ARGEMON, which see.

EPARITA. A Sort of argillaceous Earth, of the Colour of Liver (*Epar*). *Paracelsus*.

EPARMA, ἐπαρμα, or,

EPARSIS, ἐπαρσις, from αἶρω, to elevate. Any Sort of Tumor, but frequently applied to a Parotis.

EPAZOTL. A Name for the BOTRYS MEXICANA, which see.

EPENCRANIS, ἐπέγκερσις. A Name by which *Erasistratus* called the Cerebellum. *Galen, de Usu Part. L. 8. C. 13.*

EPERLANUS. The Smelt. *Lemery*, in his Treatise on Foods, tells us, that you are to chuse Smelts that are fair, shining, of a Pearl-colour, soft, tender, delicious, juicy, and smelling like Violet.

The Smelt yields pretty good Nourishment, and is easy of Digestion. It is looked upon to be opening and good for the Stone and Gravel.

We do not find it to produce any ill Effects.

It contains much Oil, and volatile Salt.

It agrees, at all times, with any Age and Constitution.

R E M A R K S.

A Smelt is a small Fish, that is bred in the Sea, and gets up into Rivers, where they fish for it. There are great Numbers of them in the *Seine*, at *Roan*; they assure us, they are more plentiful, and taste better, towards the End of Summer, or the Beginning of Autumn, than at any other times of the Year. This Fish is about the Length of one's Finger, and the Thickness of one's Thumb; and feeds upon Flies and Insects, and in Shape and Virtue is much like a Gudgeon: However, 'tis more delicious, by reason of the violet Taste it has, which probably arises from the Principles of the Smelts, being a little more exalted than those of the Gudgeon, and more freed from gross Matters; and therefore they make a more nice and finer Impression upon the Sense of Taste.

A Smelt, in *Latin*, is called *Eperlanus*, à *Perlâ*, a Pearl; because 'tis like it in Colour: They call it also, *Viola marina*, because it smells like a Violet.

EPHEBAÏON, ἐφεβαῖον the Pubes; from ἔβη, the Pubes, or Puberty.

EPHEDRA.

The Characters are;

The Root is perennial: The Plant has the Appearance of a Shrub; and the Stalks, Branches, and Leaves, resemble those of *Horse-tail*. The Flower is Male; has no Petals, but consists of testiculated Stamina, growing on a thin Substance, the Congestion of which furnishes the Floscule with a sort of Calyx: These are the Flowers which grow on the Male or Hermaphrodite Plant.

The Fruit, which either grows on another Part of the same Plant, or on another Plant which bears no Flowers, is a red juicy Berry; consists of a Pair of squamous or scaly Substances, laid across, upon a Pair of others like them, and upon that a third, and over this a fourth Pair, in like Order as the

first and second, the Series gradually increasing from the least and lowest Scales, to the uppermost and greatest, which in a bifid Cleft, a little gaping, contains two smooth oval Seeds, gibbous on the back Part, and flat on the other, and cover'd with a coriaceous Membrane. *Boerhaave*.

Boerhaave mentions two Species of this Plant; which are,

1. Ephedra; maritima, major. *Tourn. Inst.* 663. *Elem. Bot.* 514. *Boerb. Ind. A.* 2. 107. Ephedra, *Offic. Mont. Ind.* 42. *Tragus sive Uva marina major*, J. B. 1. 406. *Chab.* 87. *Uva marina major*, Ger. *Emac.* 1117. *Raii Hist.* 2. 1638. *Uva marina*, Ger. 959. *Polygonum bacciferum maritimum majus*, C. B. P. 15. *Polygonum bacciferum sive Uva marina major*, Park. *Theat.* 450. *Equisetum Polygonoides bacciferum majus*, *Hist. Oxon.* 3. 621. SEA-GRAPE OR SHRUB HORSE-TAIL. *Dale, p.* 324.

It grows in *Sicily*, and other maritime Places. Ten Kernels of the Grapes, drank in Wine, give Relief under the Coeliac Passion, and to Women in a Fluor Uterinus. *Dioscorides, Lib. 4. Cap.* 51.

The History of Plants, attributed to *Boerhaave*, informs us, that this Plant is astringent, and good in Hernias, Diarrhoeas, and Hæmorrhages.

2. Ephedra, maritima, minor. T. 663. *Polygonum, bacciferum, maritimum, minus*. C. B. P. 15. *Tragus, sive Uva marina*. J. B. 1. 406. *Equisetum* IV. *Matthioli.* Lugd. 1071. *Racemosa, Equiseti facie.* Lob. Adv. 355. *Hippuris, minor, congener cum majori Equiseto.* Lob. Obs. 461. *Equisetum, Polygonoides, bacciferum minus*. M. H. 3. 621. H. LESSER SEA HORSE-TAIL. *Boerb. Ind. A. Plant. Vol. 2. p.* 107.

EPHEDRA is also a surgical Instrument, mention'd by *Job. Laurentius*, for the Reduction of luxated Bones.

EPHEDRANA, ἐφεδρανα, the Buttocks.

EPHEDRON, ἐφεδρον from ἐδεα a Seat firmly fix'd. It occurs in *Hippocrates de Fract.* and *de Morbis L.* 2. and 3.

EPHELCIS, ἐφελκίς from ἔλκε, an Ulcer. The Crust of an Ulcer; or a small Abrasion, or bloody Fragment, sometimes brought up by Coughing in an HÆMOPRYSIS.

EPHELIS, ἐφελίς.

This Word among the *Greeks*, imported what we call Sun-burning; as is obvious by its Derivation, from ἐπι, and ἥλιος, the Sun. *Celsus*, in the fifth Chapter of his sixth Book, treats of this, and some other Disorders of a similar Nature, in the following Words: “’Tis almost needless to attempt a Cure of Pimples, Freckles, and Sun-burning: But the Care of a Woman's Complexion is a Principle so thoroughly interwoven with her Nature, that it can hardly be eradicated, or separated from her Being. Pimples and Freckles are generally known; tho' that Species call'd φακία by the *Greeks*, which is only a red and unequal Freckle, rarely occurs. The *Ephelis* is unknown to most People, and is nothing more than a certain Roughness and Hardness, accompanied with a bad Colour of the Skin: The other Blemishes happen only in the Face; tho' Freckles appear sometimes also in other Parts.”

Pimples are most commodiously remov'd, by applying to them Resin, mix'd with an equal Quantity of scissile Alum, and a little Honey. Freckles are remov'd, by the Application of Galbanum and Nitre, triturated, and made up with Vinegar, into the Consistence of Honey: With this Preparation the Skin is to be anointed. Next Morning, the Parts to which it is apply'd, are to be wash'd, and gently anointed with Oil.

The *Ephelis*, or Sun-burning, is remov'd by an Application of Resin, to which a third Part of fossile Salt, and a little Honey, are added: But all these Disorders, as also the unnatural Colour of Cicatrices, are remedied by the following Preparation, ascrib'd to *Trypho* the elder:

Take equal Quantities of Myrobolans, Crocomagma, *Cimolian* Earth of a bluish Colour, bitter Almonds; the Meats of Barley and Bitter-vetch; Dyers-weed [*Struthium album*]; and the Seeds of Melilot [*Sertula Campana*]: All these are to be triturated together, and made up with the most sharp Honey: With this Preparation, the Parts affected are to be anointed at Night, and the Medicine is carefully to be wash'd off next Morning.

EPHEMERA; from ἡμέρα, a Day. A diary Fever. In this Disorder, a Heat resembling that observ'd in Persons under the Influence of Anger, or those whose Stomachs are overloaded with Wine, is diffus'd over the whole Body: This Species of Fever has this peculiar to it, that the Pulse is, at first, large; but, as it afterwards becomes moderately quick and frequent, so 'tis equal, soft, and regular, as in a natural State. The Urine undergoes little or no Change; nor is the Disorder preceded by a Loathing of Food, a spontaneous Lassitude of the Body, disturb'd Sleep, preternatural Yawning, or Horror; but it seizes the Patient suddenly, and afflicts him with no other Symptoms than a Pain of the Head and Stomach; a Nausea,

Nausea, Heat, and Restlessness. This Disorder is sometimes imperceptibly determin'd, without any sensible Evacuation; but more frequently by copious Exhalations thro' the Skin, a moist Diaphoresis, or by gentle and not very profuse Sweats: 'Tis also to be observ'd, that a diary Fever is almost always produc'd by evident Causes; such as Watching, Anxiety, Grief, Anger, the Heat of the Sun, Weariness, Drinking to Excess, Hunger, and other things of a like Nature; and that it generally terminates in one Day: But if it should pass this Day, and continue beyond the third, it ceases to be a diary Fever, and degenerates into one of the putrid Kind. In this Case, if the Patient's Habit is excessively dry, an hectic Fever is also to be dreaded: 'Tis easier to cure, than really to know and distinguish, every Fever of the diary Kind; for which Reason, it generally happens, that a diary Fever proves injurious to the Patient, before it can be distinguished for the Disease it really is. This Disorder is not only more generally incident, but also more dangerous, to Men of bilious Constitutions, and such as are engag'd in much Business. *Lomii Medicinal. Observat.*

EPHEMERIDES. *Helmont* calls those Diseases, which seize the Patient at particular times of the Moon, *Ephemerides Egrorum*, the Almanacks of the Sick.

EPHEMERUM.

The Characters are;

The Calyx consists of three Leaves; the Flowers of three Petals, expanded in form of a Rose, and furnish'd with three Stamina, surrounding the Ovary. The Fruit is oblong, tri- capsular, and full of Seeds, like Grains of Wheat.

Boerhaave mentions four Species of this Plant; which are,

1. Ephemerum; Virginianum; flore azurco, majori. *T.* 368. VIRGINIAN SPIDERWORT, with a large azure Flower, commonly call'd the SAVOY SPIDERWORT.

2. Ephemerum; Virginianum; flore albo. *T.* 386. VIRGINIAN SPIDERWORT, with a white Flower.

3. Ephemerum; Virginianum; flore ex albo & violaceo vario. *T.* 368.

4. Ephemerum; Virginianum; flore purpureo, minore. *T.* 368. VIRGINIAN SPIDERWORT, WITH A SMALL PURPLE FLOWER. *Boerb. Ind. alt. Vol. 2. p. 133.*

I can find no medicinal Virtues attributed to either of these Plants.

Dale mentions another Species of the *Ephemerum*; which is quite different from any of the preceding, and is thus distinguish'd:

Ephemerum, Offic. Chab. 225. DEADLY SAFFRON.

It grows in Woods, and shady Places; and is thus briefly described by *Discorides*: "The Leaves and Stalks are like those of the Lily, only thinner; the Flower white and bitter, and the Seed soft: It has but one Root, of the Thickness of a Finger; long, astringent, and sweet-scented."

"The Root is excellent for the Teeth, if they be washed with its Decoction: The Leaves, boiled in Wine, discuss Tumors and Tubercles, which have, as yet, contracted no Moisture." *Discorides, Lib. 4. Cap. 85.*

The *Ephemerum* of *Theophrastus* seems to be a deleterious Plant, as *Chabræus* justly observes; but *Discorides* ascribes no deadly Quality to the *Ephemerum*: *Pliny* affirms it to be not only harmless, but wholesome. These various Accounts have occasion'd many Doubts and Disputes among the Learned, about this Plant; nor are they, as yet, agreed where to fix the genuine *Ephemerum*. *C. Bauhine* proposes two Plants to be called by this Name: *Columna* takes a Species of *Digitalis* for the *Ephemerum*; but the *Arabians*, and the Physicians of the last Age, who follow'd them, have confounded the *Ephemerum* with *Hermodactyls*. *Dale*.

EPHESIS, ἐπίσις. This is, properly, a Law-term, importing an Appeal from one Court to another: But it also signifies Desire, or Appetite. *Castellus* quotes *Moschion* for a different Sense of this Word, *Cap. 128.* and *138.* But, as there is no Foundation for what he says, in the Passages he quotes, where *Ephesis* only signifies, simply, Desire; it is not necessary to give *Castellus's* Interpretation.

EPHESIUM Emplastrum. The Name of a Plaister describ'd in *Celsus, L. 5. C. 19. Text. 21.*

EPHIALTES, ἐπιάλτης from ἐπιδέω, to rush upon. The *Incubus*, or Night-mare. See *INCUBUS*.

EPHIALTIA. A Name for the *Pæonia*, Peony.

EPIDROSIS, ἐπίδρωσις from ἐπιδέω, to break out into a Sweat, or languish under a Sweat. It is not certain, in *Galen's* Opinion, whether *Hippocrates*, by this Word, means a slight and unpromising Sweat, which is not critical, but symptomatical, breaking out all over the Body; or that symptomatical Sweat, which only appears on the Head, Neck, and Breast. Upon comparing the Passages, in which the Word occurs, it should seem, that it imports both, or either. As in the Days of *Hippocrates*, so at this time, both are of bad

Prefage; tho' they are, not unfrequently, mistaken, by the undistinguishing, lower Class of Practitioners, for critical Sweats; and are, accordingly, promoted by cordial Powders, and heating Medicines, to the Destruction of the miserable Patient.

EPHIPPIUM, ἐπίππιον, properly a Saddle, is, in Anatomy, the *Sella Turcica*. See *CAPUT*.

EPHODOS, ἐφῶδος from ἐπὶ, upon, and ὁδός, a Way; has three Significations in *Hippocrates*: First, it signifies the Ducts, Ways, or Passages, by which the Recrements of the Body are eliminated, *6 Epid. Sect. 2. Aph. 25.* Secondly, it means the periodical Attack of a Fever, as *Lib. Prognostic.* where *Galen*, in his Comment says, that the *Greeks* commonly use the Word ἐφῶδος, to signify the Invasion or Attacks of Enemies or Thieves; whence it is transfer'd by *Hippocrates*, to the Periods or Circuits of critical Days. Lastly, he often uses it to signify the Accession of similar or dissimilar Things, which may be injurious or beneficial to the Body, as *Lib. 1. de Diæta*.

EPIALOS, ἐπιάλος. An Epithet of a Fever; so called, as *P. Ægineta* says, *Lib. 2. Cap. 25.* either from ἐπιός, gentle, and ἄλς, the Sea; because the Sea appears gentle, but is very dreadful when disturbed; or, because this Fever, ἡ τὴν ἀλσάνει, "gently heats." It is defin'd by *Galen, Lib. 2. de Diff. Feb. Cap. 6.* "A Fever, in which the Patient labours under a preternatural Heat, and shivers with Cold at the same time." It may be call'd a shivering, or a shaking Fever: And the antient *Latins* gave it the Name of *QUERCERA*, "the quaking Fever." It proceeds, according to *Galen*, from an acid and vitreous Phlegm, moderately putrify'd. The Name ἐπιάλος, as we are inform'd by *Meyschius*, was by some given to the cold Shivering, preceding a Fever; and *Galen*, in the Chapter above-quoted, takes notice of the same. Ἡπιάλος πυρετός is, by Interpreters, taken for a mild and gentle Fever; and is incident, according to *Hippocrates, Lib. περὶ ἐπιπνύσ.* to Virgins grown mature, on Defect of their menstrual Purgations. He mentions this Sort of Fever also, *Lib. de Acre, Locis, & Aquis*; where *Cornarius* translates it, "mild Fevers." And, *Lib. 4. Epidem.* cold and shivering Fevers are called ἐπιαλώδεις, according to the Exposition of *Erotian*.

EPIALTES. The same as *EPHIALTES*, which see.

EPIBROCHE, ἐπιβροχή from ἐπιβρέχω, to irrigate, or pour upon. A Perfusion, or Irrigation.

EPICÆROS, ἐπικαῖρος from ἐπὶ, and καῖρος, Time. Besides the common Signification, which is, opportune, it implies in *Hippocrates*, considerable, remarkable, large, and sometimes malignant.

EPICANTHIDES, ἐπικανθίδες. The two Angles of the Eyes.

EPICARPIUM, ἐπικάρπιον from ἐπὶ, upon, and καρπός, the Wrist. An external Remedy apply'd to the Wrist. See *PERICARPIUM*.

EPICAUMA, ἐπικαύμα from καίω, to burn. A Sort of Ulcer in the Black of the Eye. See *ENCAUMA*.

EPICERAS, ἐπικίρας. Fenugreek. *Galen*.

EPICERASTICA, ἐπικεραστικά from κεράννυμι, to mix, or temperate. Medicines which temperate or obtund the Acrimony of the Humours, and mitigate the uneasy Sensation of the Parts thence arising. Among Medicines of this Kind, are reckon'd emollient Roots; as those of the Marsh-mallow, Mallow, and Liquorice.

The Leaves of Mallows, Water-lily [*Nymphaea*], the large Houseleek, Purslain, and Lettuce.

The Seeds of Barley decorticated, white Henbane, Lettuce, Flax, white Poppy, and Rue.

The Fruits, Jubebs, Raisins, sweet Apples, sweet Prunes, Sebestens, sweet Almonds, and Pine-nuts.

Among Juices and Liquors; Almond-milk, Starch, Barley-water, pinguious Broths, the Milk of the Sow-thistle, Cremor of Pisan, and the Juices of the Leaves of Nightshade, and Winter-cherry.

Among the Parts of Animals; the Whites of Eggs, Butter, Milk of all Kinds, Whey; the Head and the Feet of a Calf, and also a Sheep's Head, and Broths prepared of them; Jellies of Hartshorn, and Ivory.

Among Mucilages; the Seed of Fleawort, Quinces, of the Seed and Root of Marsh-mallows; of the Seed of Flax, Mallows, and of the Root of Borrage.

Among Oils; Oil of Olives, Violets, sweet Almonds, express'd Oils of the Seed of the Gourd, white Henbane, and white Poppy.

Among Ointments; the *Unguentum Resatum*, and *Unguentum album camphoratum*.

Among Syrups; the Syrup of Violets, of Apples, of Marsh-mallows of *Fernelius*, of Liquorice, Jubebs, Poppies, and of Purslane.

Among the various Shop Preparations; the Pulp of Cassia, Diacodium, Diapenidium, Sugar of Violet, Julap of Violets, Honey of Violets. *Morellus, de Materia Medica.*

EPICHEIRESIS. The same as **ENCHEIRESIS**, which see.
EPICHEIRON, ἐπιχειρῶν from ἐπὶ and χεῖρ, the Hand. This does not relate to Medicine, farther than as it imports a Fee.

EPICHNOUS, ἐπιχρῖς from χρῖς, a lanuginous Concretion. An Epithet for Eyes abounding with lanuginous Concretions.

EPICHOLOS, ἐπιχολός from χολή, Bile. Bilious.

EPICHORDIS, ἐπιχορδῖς from χορδή, an Intestine. The Mesentery.

EPICHORIOS. The same as **EPIDEMIUS**, which see. It is deriv'd from ἐπὶ, upon, and χώρ, a Region.

EPICOELIS, ἐπικοίλις. The superior Eyelid, or *Cilium*.

EPICOLICÆ Regionēs. The lateral, or lumbar Regions. Those Parts of the Body, which are adjacent to the *Colon*.

EPICOPHOSIS, ἐπικώφωσις. The same with κώφωσις, Deafness.

EPICRASIS, ἐπίκρησις of the same Derivation as **EPICRASTICA**. It signifies an Attemperation of the Humours. A Cure perform'd in the alterative Way, by degrees, and with tempering Medicines, is call'd a Cure *per EPICRASIN*.

EPICRATIS, ἐπικρητῖς. A Handkerchief, or Linen Cloth to wipe off Sweat; or a Woman's Head-clothes.

EPICROUSIS, ἐπικρούσις from κρούω, to strike. A sort of Percussion with light Ferulas, which the Slave-merchants us'd to apply to the Limbs of Boys, which were naturally too slender, in order to plump them up.

EPICTENION, ἐπικτενιον, the Pubes. It also seems to imply, in *Hippocrates, de Morbis Mulierum, L. 1.* a fine Lint, or Hurds of crude Flax, which adheres to the Hatchel, or Card, whilst Flax is dressing. This he directs as an Ingredient in a Pessary.

EPICYEMA, ἐπικύημα from κύω, to conceive. This Word, in *Hippocrates*, imports a Fœtus conceiv'd in the Uterus, after the Conception of a former Fœtus; and sometimes a Mole.

EPICYESIS. Of the same Derivation as the preceding Word. Superfetation; that is, the Conception of one Fœtus upon another conceiv'd below. *Hippocrates* has wrote a Treatise on this Subject.

EPIDELIOS, ἐπίδηλος from δῖλος, manifest, conspicuous; is an Epithet apply'd by *Hippocrates, Lib. de Carnibus*, to Man in the Time of his Growth, who is there said to be ἐπίδηλος, that is, disclosing, and rendering himself more and more conspicuous; and this, he says, is most observable (ἐπίδηλος μάλιστα γίγνεται) from seven to fourteen Years of Age. *Ἐπίδηλος ἡμεῖς, 2 Aph. 24.* is the conspicuous or remarkable Day, such as the fourth, eighth, and eleventh; which indicates what Manner of Crisis may reasonably be expected on the critical Day.

EPIDEMIUS, ἐπιδήμιος, or ἐπιδήμιος from ἐπὶ, upon, and δῆμος, the People. Epidemical. An Epithet of Diseases, which at certain times are popular, and attack great Numbers at or near the same time. It differs from *Endemial*, which imports Diseases peculiar to some particular Country, Region, or People; whereas epidemical Diseases are such as are peculiar to certain Seasons.

Pertinent to the present Subject are the Observations of the celebrated *Boerhaave*, on epidemical Diseases: We must remark, says this Author, that tho' every particular Disease of the Fluids, in various epidemical Constitutions, appear, to unattentive Observers, the same with regard to their Names, Signs, and their Consequences in some measure, yet the same Diseases, appearing in one epidemical Constitution, differ exceedingly from those produc'd in another, with respect to their obscure Natures; their Appearances not observable, except by the Judicious; the various Times of their Increase, State, Coction, Crisis, Effect, Event, and Method to be pursu'd for the Cure. Hence it is evident, that they require a different Administration of the Non-naturals, different Treatment, and Medicines: This Variety, however, in epidemical Distempers, is so obscure, that Physicians have not yet been able to deduce it from any Abuse of the Non-naturals: And yet there are many Circumstances which make it highly probable, that the Causes reside in the Air, but depend more upon the inexplicable Variety of Exhalations contain'd therein, which, by their Mixture with the Fluids of the Body, or their Stimulus, injure the human Machine, than upon any Change in the sensible Qualities thereof. But it is very surprising, that these epidemical Disorders should be principally propagated by Contagion, receiv'd from one by another Person unaffected.

Upon the Invasion of any unknown epidemical Distemper, the Physician will receive some Information with respect to the Cure: First, by reducing the Distemper to some more known Species, which it most resembles.

Secondly, by observing its Tendency at the vernal and autumnal Equinoxes; at which Seasons it is generally most prevalent.

Thirdly, by attending to the spontaneous Phænomena, which precede, accompany, or follow, the Death or Recovery of the Patient, and the better or worse State of the Disorder.

Fourthly, by diligently remarking the Benefit or Injury receiv'd, from whatever the Patients are unavoidably oblig'd to do; whatever is taken into; or discharged out of, the Body.

Fifthly, by comparing the Cases of a great many Patients labouring under the Distemper at the same time.

Sixthly, by abstaining from all Remedies which are dubious, which exagitate, and induce a considerable Change in the Humours, and thereby obscure the Genius of the Disease.

From these Circumstances, duly attended to, the curative Indication arises.

EPIDERIS, ἐπίδνεις. The Clitoris.

EPIDERMIS, ἐπίδερμις from ἐπὶ, upon, and δέρμα, the Skin. The Cuticle. See **CUTIS**. In *Hippocrates*, it includes also the *Cutis*, or true Skin.

EPIDESMOS, ἐπίδεσμος from δέω, to bind. A Bandage by which Bolsters, or Splints, or any thing apply'd to any Part of the Body, are secur'd.

EPIDIDYMIS, ἐπιδιδυμίς from ἐπὶ, upon, and δίδυμος, a Testicle.

The Epididymis may be reckon'd a Production of the Testicle, or a Kind of *Testis accessorius*; and it resembles, in some measure, an Arch, supported by its Centre or Frame. It is more contracted at the Middle than at the Extremities, by which it is closely united to those of the Testicle.

Between its Extremities it does not immediately touch the Testicle, but is only loosely connected to it, by the Duplication of a very fine and almost transparent Membrane, as by a kind of Ligament. This Membrane is the Continuation and Duplication of the Tunica Albuginea, or proper Coat of the Testicle, which, having supplied the Place of a Ligament to the *Epididymis*, afterwards invests it.

The *Epididymis* is flat, a little concave on the under Side, or that next the Testicle, irregularly convex on the upper Side, or that turned from the Testicle: And these two Sides are distinguished by two angular Edges; by the innermost of which it is connected to the Testicle, but the outer Edge, and flat Side, are loose and free.

The anterior Extremity, or Head, of the *Epididymis* arises from the Testicle; and the posterior Extremity or Tail, which likewise adheres very closely to it, is incurvated from behind, forward, and a little upward; and, contracting by degrees, forms a particular Canal, termed *Vas Deferens*. See **DEFERENTIA VASA**. *Winslow's Anatomy*.

EPIDORPION, ἐπίδωριον from ἐπὶ, upon, and δόρυπον, a Supper, or Meal. A Dessert, or Course of Sweet-meats or Fruits.

EPIDOSIS, ἐπίδοσις from ἐπιδίδωμι, to add to a Gift. Augmentation or Increase. It is us'd with respect to the Growth of the Body, or to the Increase of a Disease.

EPIDROME, ἐπιδρομή from ἐπὶ, upon, and δρόμα, to run. An Afflux of Humours; as it happens when a Ligature is made upon any Part.

EPIGASTRIUM, ἐπιγαστήριον from ἐπὶ and γαστήρ, the Belly. The superior Part of the Abdomen.

EPIGENEMA, ἐπιγενεμα from ἐπιγίνομαι, to generate over and above, or anew; sometimes signifies the same as σύμπτωμα, "a Symptom," as we are told by *Galen, Lib. 3. de Diff. Sympt.* sometimes a thing grown, or closely adhering to another, as the Word is spoken, *Coac. 230.* of the white Saliva generated and adhering to the Tongue of the Patient; for if this ἐπιγενεμα (*Epigenema*) be thick, it indicates a Remission of the Fever the same Day.

EPIGINOMENA, ἐπιγενέματα from ἐπιγίνομαι, to succeed, to supervene, to be an Accretion or Accession; are, agreeably to *Galen. Comment. in Aph. 35. Lib. 6.* those Symptoms which naturally succeed, or may rationally be expected, in the Progress of a Disease. But in *Aph. 32. Sect. 8. Lib. 6. Epid. Forcius* will have the τὰ ἐπιγενέματα to mean new Accessions of some other Affection to Diseases, which never happens but in stubborn and malignant Disorders, as *Galen* says, *Com. ad Aph. 21. Lib. 7.* where he says, that one *Praxagoras* wrote a Volume on *Epiginomena*; and the whole seventh Book of the Aphorisms is by some intitled, πεί τῶν ἐπιγενόμενων, "of *Epiginomena*," or Accessions to Diseases; and of such Accessions, *Lib. πεί παρών, Hippocrates* pronounces, that they are for the most part mortal.

EPIGLOSSUM. A Name for the *Laurus Alexandrina*; or *Ruscus, Latifolius, fructu folio infidente*.

EPIGLOTTIS, ἐπιγλωττις. A small Cartilage, in the Shape of a Tongue, which covers the Orifice of the Wind-pipe. See **LARYNX**.

EPIGLOTTUM. The Name of an Instrument mention'd by *Paracelsus*, for elevating the Eyelids.

EPI-

EPIGLOUTIS, ἐπιγλυτίς. The superior Part of the Buttock.
EPIGONATIS, ἐπιγονατίς, from ἐπὶ, upon, and γόνυ, a Knee. The Patella. See CRUS.

EPIGONON. The same as EPICYEMA.

EPIGOUNIDES. The Muscles inserted into the Knees.
Ruffus Ephesus, L.I. G. 16.

EPILAMPSIS. The same as ECLAMPSIS; which see.

EPILENTIA. A Name for the Epilepsy, in *Paracelsus*.

EPILEPSIA, ἐπιληψία, or ἐπίληψις, from ἐπιλαμβάνω, to seize, invade, or oppress. The Epilepsy, or Falling-sickness; call'd, also, *Comitialis Morbus*.

Among the several Calamities to which human Nature is subjected, none is more justly formidable, than that universal and involuntary Concussion, and violent Agitation, of the external Parts, which is accompanied with a Suspension both of the internal and external Senses, and which we commonly call an Epilepsy; for, during the Shocks of this terrible Misfortune, the Body is not only variously distorted and deform'd, but also the Mind, as it were, unhing'd, and depriv'd of its genuine Powers. The forbidding Aspect of epileptic Patients, and the Violence of the Symptoms with which their Disorder is accompanied, seems to be the Reason why the Antients distinguish'd this Disease, by the pompous Epithets, *Great, Herculean, Divine, and Sacred*. It is call'd *Great*, and *Herculean*, on account of its Violence; and because it can hardly be conquer'd and remov'd by human Art. It is styl'd *Divine*, either because it is impiously suppos'd to be sent from Heaven as a Curse upon Earth; or because its Cure eludes the greatest Reach of human Art, and calls for an immediate Interposition of Omnipotence. And, lastly, it receives the Epithet, *Sacred*, because it affects the Mind, the most noble and sacred Part of a rational Creature.

But, waving Disquisitions of this Kind, we define an Epilepsy, an involuntary, preternatural, highly violent, and convulsive Concussion of the nerveo-membranous, and consequently of the muscular Parts of the whole Body, attended with an Abolition of the Senses, and drawing its Origin from a spasmodic Stricture of the Membranes surrounding the Brain, the spinal Marrow, and the Nerves; by which means the subtle nervous Fluid is copiously and impetuously convey'd into the Organs of Motion, but in a smaller Quantity, and with less Impetuosity, into those subservient to the Purposes of Sensation.

The Progress and Symptoms of this Disorder vary in different Patients: For sometimes it seizes suddenly and unexpectedly; for which Reason it is, by the *Greeks*, call'd *Epilepsia*: But, more frequently, a certain Train of Symptoms precede, and indicate a Paroxysm of it. The most considerable of these Symptoms are, a Weariness of the whole Body, an oppressive Pain of the Head, accompanied with a certain Perturbation of the Senses, interrupted and unsound Sleep, unusual Dread and Terror; together with the Ringing of the Ears. In some Patients the Heart begins to palpitate very strongly, the Præcordia are inflated, Respiration is obstructed, Rumbling is perceived in the Abdomen, fetid Stools are discharged, large Quantities of Urine evacuated, and the Joints rendered cold. Some Patients perceive a kind of cold Air, or Vapour, gradually ascending from the Extremities to the Head and Brain: Some, which is the Reason why this Disorder is call'd *Morbus caducus*, or the Falling-sickness, suddenly and unexpectedly drop down on the Ground; their Thumbs are so firmly brac'd up in the Palms of their Hands, that uncommon Force is necessary for their Extraction; their Eyes are so distorted and inverted, that no Part of them, except the White, can be seen; all Sensation is so totally destroy'd, that the Patient can neither be rous'd and brought to himself by the shrillest Cries, the most stimulating Odours, nor the smartest Pinching. A Froth bursts from the Mouth with a kind of hissing Noise, the Tongue is lacerated by the Teeth, and the Joints are seiz'd with a violent Trembling and Succussion. But both the Convulsions and Privations of the Senses vary in Degree, as well as Species; for sometimes, instead of the convulsive Motions, highly rigid Spasms seize all the Members of the Body, to such a Degree, that scarcely any Force is capable of bending them; and the Patient resembles a firm and inflexible Statue of Wood. In Infants the Penis is erect'd, in young Men the Seed ejected, and the Urine frequently discharg'd to a considerable Distance. At last, these Symptoms, sometimes at a shorter, and sometimes in a longer Interval, gradually remit, and go off; but the Patients as yet complain of Pains, Listlessness, Stiffness of the Head, and Weariness of the Joints. Among the Antients, *Cælius Aurelianus* and *Aretæus* have been very distinct in enumerating the preceding Signs, the concomitant Symptoms, and the Consequences, of this Disorder. According to the former of these Authors, "There are two Species of Epilepsies, one resembling a deep and profound Sleep; and the other rendering and distorting the Body in various Manners: But the former of these is esteem'd most dangerous, since it approaches to the Nature of an Apoplexy. A Complication and Mixture of these may produce a third Species; for most Patients, who are first afflicted with Distortions and Con-

tractions of the Body, are afterwards generally seiz'd with an insurmountable Drowsiness. But a Knowledge of these different Species of the Disorder generally contributes nothing to its Cure. Those who are inclin'd to this Disorder, or just about to fall into it, are seiz'd with all the common Symptoms attending the other Disorders, which draw their Origin from a bad or injur'd State of the Meninges; such as a Stiffness of the Head, a Vertigo, a certain Noise perceiv'd within the Cranium, an uneasy Sensation in the Occiput, an Immobility of the Eyes, a Ringing of the Ears, or Difficulty of Hearing, a Dimness of Sight, accompanied with a Vertigo; or certain imaginary minute Objects resembling the Spots of Marble, and by the *Greeks* called *Marmorygmata*, and *Marmorygmæ*, or like Spiders Web, or slender Clouds, or small fluttering Insects, such as Grains, are perceiv'd to fluctuate and dance before the Eyes; or the Patients observe small Sparkles, or, as it were, fiery Circles, vibrating before their Eyes. The Tongue, also, becomes inflexible, a kind of subsultory Motion is perceiv'd in the Tendons, and a Pain in the Shoulders, between the Scapulae. These Signs are succeeded by a Hardness of the Throat, a continual Inflation of the Præcordia, a Yawning and Sneezing, a Discharge of the Saliva; and either a Loathing of Food, or an immoderate Appetite for it. Continual Watchings, or long and unrefreshing Sleeps, frightful Dreams, and a small, or totally obstructed Evacuation of the Fæces by Stool, an Erection of the Penis without any manifest Cause, and a preternatural Inclination to Venery. Sometimes, also, the Seed is discharg'd during Sleep, which the *Greeks* call *ovispermia*. The Mind is anxious and uneasy, prone to Anger on the slightest Occasions, forgetful of Circumstances almost immediately before transacted, and ready to be clouded and overcast with the Impressions of Gloom and Melancholy. When the Disorder comes on, and has already seiz'd the Patient, there is a Privation of the Senses; and in some Patients the Paroxysm induces a perfect Immobility, accompanied with a Gaping of the Mouth, a preternatural Paleness, a slow Respiration, a large Pulse, and a kind of Oppression resembling an insurmountable Drowsiness. Other Patients have the Members of their Bodies twisted and thrown into various subsultory Motions, whilst, at the same time, their Countenance and Eyes are strangely distorted; and this Distortion, sometimes continuing after the Paroxysm, renders the Patients squint-ey'd. On the contrary, those who are only seiz'd with a slight and gentle Paroxysm, seem to retain their natural Sight; and the Accession is succeeded by a Rattling in the Throat, a Hiccup, a Redness of the Countenance, an Inflation of the Veins, and sometimes a Cessation of the Pulse and Respiration. The Patient seems to be favour'd with a kind of Respite at certain Intervals, and the Eyelids remain immoveable. The Teeth strike and grind upon each other, and the Tongue, hanging out of the Mouth, is frequently cut by the Violence of their Collision. The Præcordia are drawn upwards, the Fæces and Urine involuntarily discharg'd, and a dewy Sweat excited over all the Body, which, on this Occasion, is stiff and rigid. Some Patients, during the Paroxysm, emit a kind of faint and inarticulate Sounds; and before its Remission, discharge a Froth from their Mouths and Nostrils. When the Paroxysm ceases, the Patient is entirely ignorant of every thing that happen'd during it; he rolls on the Ground, and has his Countenance overcast with Horror and Sadness; then he begins to yawn, stretch his Body, and, in doing these, to make unusual Efforts. He walks slowly, and his whole Body has a ghastly and unseemly Aspect. His Eyes, also, remain turbid and disordered, and the Veins of his Forehead distended and prominent. Some Patients, also, seem affected with an Alienation of Mind to such a Degree, that they know not those they were before well acquainted with. At other times, after the Paroxysm is over, many of the antecedent Symptoms, above-enumerated, seize the Patient; such as a Privation or Dimness of Sight, when he sets about any Business which requires a stooping Posture of the Body, looks at a Ship under Sail before a brisk Gale of Wind, beholds the quick gyratory Motion of a Wheel, views an impetuous Current of Water, looks up at a very high Building, or the Eminence of a Rock, hears a sudden and shrill Noise, is exposed to excessive Cold, uses too hot Baths, or has a strong Impression made upon the Organs of Smell, either by fragrant or fetid Essences; such as those diffused by burning Storax, Frankincense, Bdellium, the Lapis Gagates, Bitumen, or Hartshorn. Sometimes the Paroxysms return at fix'd and stated Periods, whereas at others they are irregular and anomalous, sometimes returning at longer Intervals, such as a Year, for Instance, and at other times frequently seizing the Patient more or less severely, each Month, or perhaps each Day. Some by their restless and uneasy State in the Night-time, and other antecedent Signs, are rendered previously sensible of an approaching Paroxysm;

“ Paroxysm ; whereas others are instantaneously seiz’d, without any previous Signs of their approaching Misfortune ; a Circumstance in consequence of which they are expos’d to imminent Danger ; for some, advertis’d of the approaching Fit by certain Signs, provide against it, by betaking themselves to Houses, and choosing Places where they may safely, and without being expos’d, struggle with the Shocks of their Calamity ; whereas others, without being apprisd of their approaching Fate, are, by falling in public Places, at once expos’d to the Eyes of the World, and additional Degrees of Danger, which are not naturally connected with the Disorder. Some, for Instance, fall in Rivers, or the Sea, or are indecently compel’d to discharge their Excrements in the public Baths : After the Remission of one Paroxysm, the Signs denouncing the Approach of another are those by which the Accession of the first were indicated, such as disturb’d and disorderly Sleep ; a Corruption of the Aliment without any sensible Cause ; an Erection of the Penis without any apparent Reason ; a preternatural Propensity to Venery ; an Emission of the Seed during Sleep, which the *Greeks* call *ἐνυπνίου* a Propensity to Anger, Dejection of Mind, and the other Signs before-enumerated ; as also Slowness and Reluctance to the Patient’s usual Business ; an oppressive and drowsy-like Sadness of Countenance, which is now discolour’d, and preternaturally inflated, together with an unseemly Aspect of the Eyes, and a kind of downcast Look ; for the Patient cannot, without Difficulty, look upwards ; and, if he should make an Attempt of this Kind, the State of his Eyes becomes so uneasy, that he is forthwith obliged to turn them downwards. Upon every sudden Turning of his Head to any Side, he is seiz’d with a Vertigo, a Trembling, a Torpor, a Contraction of his Fingers, and an uneasy Sensation in his Legs, and in the Extremities of his Feet and Hands. When we have not an Opportunity of gaining that certain and irrefragable Knowledge of the Disease, which our being present at the Approach of a Paroxysm would afford us, or when, in consequence of Non-age, or any other Cause, the Patient cannot enumerate his Symptoms, we may, from being inform’d of all or some of the above-mention’d Circumstances, prognosticate a Paroxysm, guessing as nearly as we can at the particular Time of its Approach, since this Disorder generally seizes the Patient at fix’d and stated Intervals. Epilepsies are more frequently incident to Children, especially during Dentition, to Persons in the first Stages of Life, or of a middle Age, than to those pretty far advanced in Years. The Disorder is also more severe upon Infants, than upon Children farther advanced, and older Persons ; since the weak and languid Strength of the former is more unequal to the Shocks of this violent Disease. In young Women this Disorder is generally carried off about the Time of Puberty, in consequence of some happy Change of Temperament induced by the Eruption of the Menstrues, or the Birth of their first Child. But, if this lucky Circumstance should not happen, the Disorder generally lasts during the Patient’s Life, unless by the long and vigorous Efforts of Nature, or the diligent Exhibition of powerful Medicines, it should be happily routed and vanquish’d. Epilepsies seize at all Seasons of the Year, but most generally in the Spring. Women, in consequence of a Suffocation of the Uterus, are frequently afflicted with Symptoms resembling those of an Epilepsy ; for they are, in the same manner with an epileptic Patient, depriv’d of their Senses ; and the only Circumstance, which discriminates the one Disorder from the other, is, that in a Suffocation of the Uterus, the Patient does not, towards the End of the Paroxysm, discharge a frothy Matter from the Mouth and Nostrils.”

As this Account of the preceding, concomitant, and subsequent Symptoms of an Epilepsy, given by *Carlius Aurelianus*, in the fourth Chapter of his first Book of Chronical Diseases, is so full and explicit, that scarce any thing can be added to it, we shall, without farther quoting *Aretæus*, or any other Author, proceed to give the Sentiments of *Hoffman*, from whom the first Part of this Article is taken.

The Paroxysms of this Disorder, which, according to the Diversity of their productive Causes, are longer or shorter, fewer or more frequent, generally return at stated Periods, on certain Days, for Instance, Hours, or even Months, about the Changes and Quadratures of the Moon, especially about the New and Full Moons. The Women are most commonly seiz’d with them about the Returns of their monthly Evacuations ; and what deserves our Attention is, that they are frequently excited by the slightest, and, seemingly, most inconsiderable Causes ; such as any sudden Commotion of Mind, a Fright, a Sally of Passion, the tumultuous Workings of sudden Joy ; Meditation, or close Application of Mind, intoxicating Liquors, excessive Heat or Cold, and the Use of Venery.

’Tis also to be remember’d, that no Period of Life is more subject to the Tyranny of this Disorder, than that of Infancy ; for which Reason ’tis, by some, call’d *Morbus Infantilis*, and

Puerilis. Hence, ’tis obvious from daily Experience, that the far greater Part, if not Half of the Children yearly cut off, fall a Sacrifice to Convulsions, either excited by difficult Dentition, or produc’d by violent Gripes of the Intestines arising from bad and corrupted Milk, or a Retention of the Meconium. And, that almost all the Diseases incident to Children, whether of the acute, or chronical Kind, especially when complicated with Worms, are generally attended with convulsive and epileptic Motions, is sufficiently obvious ; as may appear in the Measles and Small-pox. Besides, those who are in the least conversant in the Practice of Medicine, cannot fail to observe, that this terrible Disorder is more frequently incident to such Patients as are of a spongy, soft, and succulent Habit, or of a delicate Make, both with respect to Body and Mind, than to those who are bless’d with a more hardy, vigorous, and robust Constitution. This is sufficiently confirm’d by the Children of Country-people, who, during the Expulsion of the Small-pox, the Use of Milk, corrupted either by improper Aliments, or disorderly Passions, or during the Eruption of their Teeth, are not, by far, so much subject to Epilepsies, as weak and tender Infants, delicately nurs’d and brought up in Towns and Cities.

No Disease is more palpably hereditary, or more readily convey’d from Parents to Children, than an Epilepsy. This is to be accounted for from the Parents conveying to their Children such a Texture and Disposition of the nervous and membranous Parts, as is too delicate, and subject to anomalous and irregular Commotions. Nor are those less expos’d to the Attacks of this Disorder, who either naturally, or in consequence of an improper and erroneous Regimen, have the Misfortune to have weak and infirm Heads, who are subject to Coryzas, Defluxions of the Eyes and Ears, Swellings of the Glands of the Neck, Achors, and scald’d Heads ; or who, in the first Stages of their Lives, have been frequently subject to Hæmorrhages from the Nose.

These Things being premis’d, we now come to consider the Cause and Seat of an Epilepsy. That the former of these is a certain Indisposition of the Brain, is a Truth which no one has as yet call’d in Question : But in what this Indisposition consists, or by what means it is produc’d, are, in my Opinion, Circumstances which have not hitherto been sufficiently explain’d and accounted for. Those who love to cloke their Ignorance by a pretended Veneration for Religion, and Things sacred, do not hesitate to call the Epilepsy, *τὸ θεῖον*, something of divine Original, not reflecting, in the mean time, that ’tis far from being fair and equitable, to make God the immediate Cause of an Effect, because it, perhaps, cannot be easily comprehended, or accounted for from known and incontestable Principles. Others have recourse to an intoxicating, narcotic, and stupefying Poison ; others to a peculiar and specific Ferment ; others to an acrid Matter, stimulating the Nerves ; and others to a preternatural explosive Force of the animal Spirits acting upon the muscular and nervous Fibres ; whilst others, neither desirous nor capable of being understood, ascribe the Cause of this Disorder to the Fury of *Archæus* ; and others, to a certain tumultuous and confus’d Motion of the vital Principle, or rational Soul. But these are the idle Figments of that despicable Class of Physicians, who, instead of the real Causes of a Disorder, are content with certain vague and unintelligible Names, which neither discover its Nature, nor account for its several Symptoms. Those, on the contrary, who go more rationally to work, and prefer such Causes as are subjected to their Senses, before unphilosophical, and even unintelligible Conjectures, generally give their Suffrage to the Opinion of *Carolus Piso* ; who, as the true and genuine Cause of an Epilepsy, assigns a Collection of peccant Serum, which either obstructs the Pores of the Brain, or prevents the due and equable Influx of the animal Spirits to those Parts, into which, in a sound and natural State, they ought to be convey’d.

But we, satisfied only with physico-mechanical Causes, derive the Source of an Epilepsy from an undue and unnatural Motion and Circulation of the Humours through the Vessels of the Brain ; for, as, when there is a free and equable Circulation of a laudable Blood through the Vessels of the Brain, and consequently a due Secretion and Distribution of a spirituous Lymph through the Nerves, all the animal Functions are regularly carried on ; so, on the contrary, in every violent Disorder of the Head, where Sensation, and voluntary Motion, are considerably injur’d, as in an Epilepsy they manifestly are, we may reasonably conclude, that the Circulation of the Blood through the Head is not carried on in a free, natural, and uninterrupted manner. This was long ago observ’d by *Hippocrates*, who, in his Book *de Flatibus*, uses the following Words : “ The Epilepsy is produced, when various Kinds of Obstructions happen in the Veins, and so intercept the Motion of the Blood, that in some Parts it stands still, enters others slowly, and others more quickly ; and this undue and unequal Conveyance of the Blood of course affects the whole Body.” This Doctrine of *Hippocrates*, now the Circulation of the Blood, which is the principal Basis and Foundation of Medicine,

cine, is discover'd, sufficiently accounts for the Cause and Origin of an Epilepsy.

But since the Circulation of the Blood through the Head and Brain is of a peculiar Nature, and differs from that carried on in the other Parts, we shall inquire a little more narrowly into it, that, by this means, the *Ætiology* of an Epilepsy may be the more distinct and comprehensible. First, then, we must consider, that, as soon as the Arteries enter the Head, they lose their stronger Coat, and, consisting only of a thin Membrane, destitute of Sensation and Motion, are distributed through the internal cortical Substance both of the Cerebrum and Cerebellum, in order to separate that spirituous Lymph, which is necessary for the several Purposes of Motion, and which, for that End, is convey'd to the Nerves, and the nervous Membranes; whilst, at the same time, the Blood left dispersed thro' the venous Sinuses in the *Dura Mater*, is, by means of the jugular Veins, carried back to the Heart, the original Source of the circulating Motion of the Fluids. We must also carefully advert to the singular Structure of the *Dura Mater*, which is composed of a peculiar Apparatus of nervous and muscular Fibres; the latter of which are distributed both in direct and oblique Lines, and are found more incurvated and circular about the lateral Sinuses; whereas the former, being nervous and fleshy, are found to run like so many Columns or Pillars, from the one Side to the other of the three large Sinuses, when dissected, where we also observe oval Cellulæ, disposed according to the Direction of the Veins which enter them. These Fibres not only hinder the Sinuses from being too much dilated by the influent Blood, but also, by producing a successive and alternate Contraction in them, render the Progress of the Blood to the jugular Veins more quick and expeditious. The Office, on the other hand, of the Columns or Pillars, is, the better to attenuate and divide the returning Blood, which is somewhat thick, in consequence of its being destitute of the subtil Lymph. And, lastly, the oval Cellulæ are like so many Valves, which hinder the Blood, once discharg'd, from returning into the same Vessels. This peculiar and remarkably curious Structure of the venous Sinuses sufficiently demonstrates, that, in order to promote the Circulation of the Blood to the Heart, they are furnish'd with a kind of systaltic and diastaltic Motion, not unlike to those of the Arteries or Auricles of the Heart.

Besides this peculiar Motion of the venous Sinuses, there is also a tonic, or rather elastic, Motion to be ascribed to the *Dura Mater*, and which is found in all the other nerveo-muscular Parts of the Body, which are animated by an Influx of the nervous and arterial Fluids; for the dilatatory and contractile Motion of the *Dura Mater*, which covers, surrounds, and embraces, not only the Brain and Cerebellum, but also the spinal Marrow, and all the Nerves of the Body, contributes not a little, both to the Circulation of the Blood through the Head, and the better Secretion of the spirituous Fluid undulating in the Nerves; for when, by the Pulsation of the Arteries, this elastic Membrane of the Brain is elevated and expanded, the small Cavities of the Nerves are by that means render'd more fit for receiving the subtil nervous Fluid. But when, after the Expansion of this Membrane, it, by its own Elasticity, which is increased by the Afflux of the arterial Blood from three considerable Ramifications, that is, the internal and external Carotids, and from the vertebral Artery, as also by the Influx of the nervous Fluid, again contracts itself, it in some measure compresses the cortical Substance of the Brain; by which the fine nervous Fluid is the more effectually forced out of it, to the medullary Substance, and Beginnings of the Nerves. When, therefore, these reciprocal systaltic and diastaltic Motions of the *Dura Mater*, and its larger Sinuses, are duly perform'd, the Circulation of the Blood through the Head, and the Functions depending upon it, are excellently carried on; whereas, when these several Motions are disordered and irregular, very terrible Diseases of the Head are produced. These Things are more fully explained by *Baglivi*, who first introduced the Nature and Motion of the Solids into Pathology. *Lib. 1. de Fibra Motrice.*

If therefore a thick Blood, or too large a Quantity of Blood, should happen to stagnate in the Sinuses of the *Dura Mater*, its systaltic Motion, and the Regress of the Blood to the Heart, depending upon it, is by that means easily hinder'd; and hence there is in that Part so large a Congestion of Blood conveyed by the Arteries, that the highly fine and ethereal Particles can no longer enter the small Vessels of the Brain and Nerves, but only such Particles as are coarse, aqueous, aereo-elastic, more expansive, and have a Tendency to produce an incredible Disorder in the Powers of Sensation and Motion. By this Blood, also, stagnating in the Sinuses of the *Dura Mater*, and jugular Veins, the Vessels are too much dilated: Hence the nervous Fibres are compress'd, and a spasmodic Stricture induced on the *Dura Mater*, which is a nervous Membrane; and this spasmodic Stricture is the immediate and principal Cause of an Epilepsy; for it is of such a Nature, as to compress too violently the small arterial Vessels of the *Pia Mater*,

and the cortical Substance of the Brain: Hence, without the Influence of the Will, the subtil Fluid contain'd in them is copiously, and with a strong Impetus, forc'd into the Brain, and Cavities of the Nerves. But since, according to the Opinion of almost all Anatomists, the *Dura Mater* is the Root and Source of all the Membranes, it must necessarily have a near Connection with them, and a mutual Communication of irregular and inordinate Motions. But because, by this spasmodic Stricture of the *Dura Mater*, the Nerves subservient to Sensation are so constricted, as almost totally to intercept the Influx of the nervous Fluid, by this means it happens, that in a perfect Epilepsy there is a Cessation of all the Senses both internal and external; on the contrary, the Influx of the fine and highly moveable nervous Fluid into the Parts subservient to Motion is render'd stronger, and more violent; and hence arises that terrible Distention, Contraction, Succussion, and Agitation of the Joints and Muscles. Besides, 'tis certain, that the eighth Pair of Nerves, call'd also the *Par vagum*, distributes its Branches to the principal Viscera, and nervous Parts, subservient to the Purposes of Sensation and Motion; into which Branches whilst the nervous Fluid flows with a more violent Impetus, these Parts are, under the Paroxysm, drawn into Consent, and partake of the preternatural and violent Commotions. Hence the Heart is seiz'd with a Palpitation; the Pulse becomes quick and unequal; Respiration is laborious, and accompanied with a Stertor; Saliva is discharged from the Mouth; the Patient loses the Use of his Speech; and Rumbings and Murmurs are perceived in the Intestines.

From what has been said, 'tis sufficiently obvious, that the immediate Cause of every Epilepsy is a Stricture of that Membrane which surrounds the Brain, the spinal Marrow, and the Nerves. But as the more remote and secondary Causes which induce this Stricture, and render the Circulation of the Humours through the Head and Brain disorderly and irregular, are very various, so there arise hence different Species and Denominations of epileptic Fits. Hence we are enabled to comprehend the Difference between an idiopathic and symptomatic Epilepsy; for, when the Causes are lodg'd within the Brain itself, it is call'd an idiopathic Epilepsy; whereas, when its Causes arise from any Fault of other Parts transfer'd to the Head, it is call'd a symptomatic Epilepsy.

An Epilepsy of the idiopathic Kind most frequently arises from external Violence; for 'tis well known by Physicians and Surgeons, that violent, and sometimes mortal, Epilepsies are brought on by severe Wounds, Fractures, Blows, and Depressions of the Cranium. These are generally preceded by a Pain of the Head, and a Torpor of the Senses; and, after the Patient's Death, either corrupted Blood or Serum is found stagnating between the *Dura* and the *Pia Mater*, or between the Cranium and the *Dura Mater*; or Splinters are found impacted in the *Dura Mater*. It also frequently happens, that a chronical Epilepsy, returning at certain stated Periods, is excited by acute bony Protuberances, arising internally in the Basis of the Cranium, and sometimes in the lateral or falci-form Sinus. Though this Species of Epilepsy is absolutely incurable, yet by prudent Measures the Brain may be so dispos'd, and put into such a State and Condition, that its Pressure on these Protuberances may not be so great as to produce an epileptic Fit.

Among the Causes of an idiopathic and mortal Epilepsy, we may justly reckon an Obstruction of the jugular Veins, or of the Sinuses of the *Dura Mater*, especially of the falci-form Sinus, arising from a viscid Blood, or polypose Concretions. Three Instances of this Kind have occur'd to me in the Course of my Experience; and many more may be seen in *Bonetus's Sepulchretum Anatomicum*. Of this Kind also is the Case related by *Sponius*, in *Aphor. Lib. 2. 19.* in which the Patient first became drowsy, then epileptic, and then died. Upon opening his Cranium, the various Ramifications of the jugular Veins were found so obstructed with a viscid and tartareous Matter, that they seem'd, as it were, to be stuff'd with Plaster. Besides, there was a certain Quantity of Blood extravasated in the Ventricles of the Brain. When, also, an Epilepsy is complicated with acute Disorders of the Head, such as a Phrenitis, or with those of a chronical Nature, such as Madness and Melancholy, those Infarctions of the Vessels, by a thick Blood, are found in the Patients after Death. But this Species of Epilepsy is, in my Opinion, justly to be esteem'd of the idiopathic Kind.

Besides, the Passions of the Mind, especially Anger and Dread, contribute very considerably to the Production of an idiopathic Epilepsy; for these act immediately and directly on the nervous and membranous Parts of the Body, either by constricting them too powerfully, or dilating them preternaturally; by which means they disturb all the Motions subservient to the Preservation of Life and Health. But 'tis pretty surprising, that violent Passions of the Mind should also convey their Influence to the fluid Parts of the Body. This is sufficiently obvious from the Instance of Nurses, who, if they happen to give the Breast to Children, immediately after an excessive Fit of Passion or Dread, soon after

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render them epileptic by that very means. 'Tis also no uncommon thing for Children, whose Mothers, when pregnant with them, indulg'd themselves in the most violent Commotions of Mind, to become subject to epileptic Fits in their Infancy. Among practical Authors, Instances every-where occur, of some Persons, who, by the Dread and Terror excited by the Aspect of epileptic Patients, have been seiz'd with the like Disorder. It may also be confirm'd, by several memorable Instances, that a strong Propensity to Venery, arising from a Redundance of Seed, and suppressed from a Principle of Chastity, has brought on an Epilepsy: 'Tis also certain, that Women, otherwise chaste and modest, have been seized with this Misfortune, in consequence of a strong and ardent Love; in which Case, Marriage is the surest and most effectual Remedy, both with a prophylactic and curative Intention.

In cachectic and hypochondriacal Patients, or those whose Stomach and Intestines are distended with Flatulences, spasmodically constricted, or have their peristaltic Motions, together with their Secretions and Excretions, impair'd and injur'd, an Epilepsy frequently arises from a too copious and impetuous Transfusion of an impure and serous Blood to the Head; for when we inquire into the antecedent Causes, not only of an Epilepsy, but also of all violent and inveterate Disorders of the Brain, we generally find the Patients labouring under them, to be either hypochondriacal, subject to the Hæmorrhoids, melancholic, or cachectic; for 'tis certain, both from Experience, and the Observations of good Authors, that the Evacuations by the hæmorrhoidal Veins in Men, and the Menstrues in Women, when either too scanty or immoderate, lay a Foundation for this Disorder; in which Case, it is justly call'd a symptomatic Epilepsy, either of the serous, hypochondriac, or cachectic Kind; and, like other Disorders arising from Spasms of the *Primæ Viæ*, returns at certain fixed and stated Periods.

But this Species of symptomatic Epilepsy arises not only from a large Quantity of viscid Blood or Serum stagnating in the Vessels, obstructing them, and by that means preventing the due Circulation of the Humours; but also from an impure, acrid, and caustic Matter, convey'd to the *Dura Mater*, by means of the serous arterial Blood, and stimulating the nervous Fibres, and adjacent Parts, to spasmodic Constrictions. This Accident happens in chronical as well as acute Disorders. 'Tis well known, that such an acrid and corrupted Serum, firmly adhering to the *Dura Mater*, in exanthematous and petechial Fevers, Small-pox, Measles, and purple Fever, either before the Eruption of the Spots, or upon their Retrocession, frequently induces an Epilepsy, which is generally fatal. 'Tis also confirm'd, by numberless Observations, that an Epilepsy may be produced by consolidating old and inveterate Ulcers, repelling the Itch, cutaneous Eruptions, Achors, and seal'd Heads, since, by such a preposterous Practice, the vitious and peccant Matter is driven inwards.

There is also another Species of Epilepsy, call'd Sympathetic, and which arises from violent Pains and Spasms of other nervous Parts, propagated and conveyed to the *Dura Mater*, in consequence of the Consent between the latter and the former; for Children are frequently seized with an Epilepsy on account of a difficult Dentition; and severe Tooth-achs, in tender and delicate Patients, sometimes bring on Epilepsies. 'Tis also well known, that Epilepsies are sometimes produced by violent Spasms of the Stomach, especially such as are excited by caustic Poisons, the imprudent Use of Emetics and Purgatives, or immoderate Anger; for the Cause of such a periodic and chronical Epilepsy is often seated in the Stomach or Duodenum, in which the Bile and Saliva, being corrupted by a preternatural Fermentation, are, at stated Periods, thrown into violent Commotions, and excite, first, a Cardialgia, attended with Faintings, and then by Consent an Epilepsy; which, in this Case, is generally habitual to the Patient. That an Epilepsy may also accompany violent Pains and Spasms of the Ileum or Colon, is sufficiently certain from the Case of sucking Children, who are frequently afflicted with this Misfortune, in consequence of an acid and corrupted Milk, which corrodes the Membranes of their Intestines, and tinges their Excrements with a greenish Colour. Besides, there are a great many Instances of Epilepsies produced, even in Persons well advanced in Years, by the Pains arising from Stones sticking in the Ureters, or Entrance of the Bladder; and this Species of the Disorder may be justly call'd a nephritic Epilepsy. In Child-bed Women also, in consequence of some Fault of the Uterus, or a Retention of the Lochia, and, in others, on account of a Defect in the Menstrues, first, violent Spasms of the Intestines, and adjacent Parts, are observ'd to happen; and then an Epilepsy, which is distinguish'd from the other Species of this Disorder by the Epithet *Hysteric*. Nothing is also more common than the Production of an Epilepsy, accompanied with terrible Distortions, especially in Children, by Worms either corroding the nervous Coats of the Intestines, or, if dead, stimulating them by their subtle and putrid Exhalations. This Species may, for the sake of Distinction, be call'd the verminous Epilepsy. Besides, that the Disorder of which we

now treat, may be produced by the Bite of a mad Dog, is sufficiently certain from the Observations of practical Authors.

Among the more remote and secondary Causes of an Epilepsy, we may almost reckon every thing which has a Tendency to impair the Strength and Tone of the nervous and membranous Fibres, or weaken the elastic Force of the Vessels; for, though the immediate and formal Cause of an Epilepsy consists rather in a spasmodic Stricture, than a Privation of Tone in the Parts, yet, since, by the Laws of Motion peculiar to the human Body, Constrictions and Spasms are succeeded by a Privation of Tone in the Parts, and a subsequent Congestion of Humours; and this Congestion is again productive of Spasms; 'tis not to be wonder'd at, if such Causes, as impair and diminish the Tone and Strength of the Parts, should greatly contribute to the Production of spasmodic Strictures, and the more frequent Returns of the Paroxysms. Among the Causes of this Kind, we may reckon, among the Non-naturals, a vapid Air, especially impregnated with the noxious Steam of Coals; sleeping in low and too close Chambers; using such Aliments as generate Flatulences, and stuff the Head with Vapours; such as all the Species of Garlicks, Onions, and Smallage, Summer Fruits, and all sweet fermentable Substances; the immoderate Use of Wines, especially such whose Fermentation is not finish'd, or which are impregnated with the Steam of Sulphur; the Drinking of thick Ales, strongly hopt, and especially to such Excess, as to produce Intoxication and Crampulas. Among the medicinal Substances, Narcotics, Opiates, and strong-scented Substances, contribute considerably to the Production of this Disorder. To these we may, also, add immoderate Hæmorrhages, whether from the Nose, the Vessels of the Uterus, or the Anus, since these remarkably impair the Strength of the Parts, and consequently fill the Body with a large Quantity of serous and recrementitious Particles. An immoderate Use of Venery in the first Stages of Life, long-continued Sadness, close Study, an intense Application of the Mind to serious and important Subjects, greatly contribute to the Production of this Disorder, in consequence of the Weakness they induce on the nervous System. I remember to have seen a young Man, who, upon fatiguing his Genius or Memory too much, was forthwith seized with a kind of slight Epilepsy, a Palpitation of the Heart, a Distraction and Ecstasy of the Spirits; whereas he was always in an easy and healthy State, when he did not apply to his Studies.

But, waving any farther Investigation of the Causes, we now come to consider the Prognostics of an Epilepsy. 'Tis, therefore, confirm'd by the Experience of *Hippocrates*, as related in the twenty-eighth Aphorism of the third Section, that in Boys this Disease is determin'd about the seventh Year of their Age; or about the fourteenth, or seventeenth, which are the Years of Puberty; and in Girls about the Eruption of their Menstrues, which is the fourteenth Year of their Age, and productive of a very considerable Change in the animal Economy. 'Tis also certain, from various Observations, that chronical Epilepsies have been spontaneously cur'd, not only by a Change of Age, but also by a Change of Places, Diet, and Regimen, without the Assistance of Medicines or Physicians. Thus *Hippocrates*, in *Aph. 45. Sect. 2.* justly observes, that, if young Persons are freed from the Epilepsy, it depends principally upon the Change of Air, Climates, and Regimen. It also happens, that, upon the Approach of a quartan Fever, convulsive and epileptic Fits, as well as some other terrible Disorders, are totally removed, as *Hippocrates* has justly observed in *Aph. 70. Sect. 4.* as also in *Epidem. Lib. 6. Sect. 16.* for, when intermittent Fevers are duly managed, they free the Body from its Load of peccant Humours, and render it more pure and dry; which Effect ought also to be produced by proper and well-chosen Remedies. 'Tis also well known, that by an Eruption of the Itch, Ulcers, and Exanthemata, as also of the Measles, Small-pox, and purple Fever, the Epilepsy remits, and is sometimes totally removed. All Hopes of Cure are not, therefore, to be laid aside, when the Disorder is not inveterate, when its Fits are not long, when it is not hereditary, and when the Patient is but very young; or when it arises from a Fault of the *Primæ Viæ*, Worms, a bad Regimen, or an ill-cur'd subcutaneous Disorder. Neither is the Cure to be despair'd of, if the Degree of the Epilepsy is but slight; if the Patient is previously sensible of an approaching Fit, by a Cold which rises gradually from his Feet to his Back, Precordia, and Head, and when it is preceded by Uneasiness, Loss of Strength, and a Propensity to vomit; or when, under the Paroxysm, the Senses are not entirely abolished, but only impair'd; or, lastly, when the Disorder seizes in the Night-time, without the Clenching of the Thumbs.

On the contrary, 'tis certain from Experience, that an hereditary Epilepsy, though treated with the most proper and best-chosen Remedies, is very difficult to be cured; nor is there a small Difficulty to be surmounted in the Cure of an Epilepsy which is habitual and chronical, which has lasted for many Years, and by long and frequent Paroxysms enervated the Body

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Body, and, as it were, chang'd the Conformation of the Vessels and Membranes of the Brain. But that Epilepsy terminates less happily, which is not remov'd about the Years of Puberty; or, in Women, about the Eruption of the Menfes; as also that which appears after these Years, or even after the twenty-first Year of the Patient's Age; for then it, for the most part, discovers some hereditary Taint. Thus *Hippocrates*, in his Book *de Morbo Sacro*, informs us, "that few Patients, after the twenty-first Year of their Age, are seized with an Epilepsy, unless that Misfortune should happen to be hereditary to them." 'Tis a bad Sign, when the Paroxysms become more frequent than usual; for, by this means, the animal Functions are often so destroy'd, that the Memory, Genius, and Judgment, are not only impair'd, but also Stupidity and Folly produc'd. 'Tis a bad Sign, when an Epilepsy terminates in Blindness, Folly, or Loss of Memory; but 'tis absolutely fatal and mortal, when it terminates in a Palsy, or degenerates into an Apoplexy. And, upon dissecting Patients who have died in this manner, Blood, or more frequently Serum, is found extravasated and corrupted in the Ventricles, or Base of the Brain. But this Circumstance is falsely assign'd as the Cause of the Epilepsy. There are but faint Hopes to be entertain'd of the Patient's Recovery, when, in the Height of an acute Fever, a Phrenitis, Petechiæ, Measles, or Small-pox, he is seized with epileptic Fits. Nor are the Epilepsies of Children, arising from difficult Dentition, or Gripes of the Intestines, free from Danger, when they afflict the Patient without Intermission. Nor is it an uncommon Thing for an hereditary, idiopathic, and inveterate Epilepsy, to degenerate into Melancholy, Madness, and Folly; especially if the Patient uses an improper Regimen, or indulges himself in the exorbitant Transports of Passion.

The Cure.

In attempting the Cure of the Epilepsy, our first Intention must be to correct, and expel from the Body, the remote material Causes of the Disorder. Secondly, we must endeavour to mitigate and allay the violent Spasms of the Dura Mater, and nervous Parts. This last Intention is principally answered by Medicines of two Kinds; that is, by those of a sedative, and those of a corroborative Nature. The former check and allay the fierce and impetuous Motions of the Fluids; whereas the latter excellently contribute, not only to remove the Weakness, and Want of Tone, left by the Violence of the Spasms, and which lay a Foundation for future Paroxysms; but also to restore the due Tone, and natural Elasticity, of the Parts.

Sedative Medicines are such as, by their Steams and Exhalations of a mild sulphureous Nature, check the exorbitant Motions of the nervous Fluid. Of this Kind, in the vegetable Kingdom, are Herbs and Flowers moderately fragrant, and Waters distilled from them; such as the Waters of Meadow-sweet, Baum, Sage, Basilicon, Cowslips, Lilies of the Valley, white Lilies, Roses, Limes, Egyptian-thorn, Piony, Orange-flowers, Citron-flowers, the Roots of Piony and Valerian; as also, the Waters distilled from the Stones of Cherries, Peaches, and Prunes. To this Class, also, belong Saffron, Poppy-flowers in form of an Extract, the Seeds of Club-moss, and white Poppies; and, among aromatic Substances, Nutmegs. In the Animal Kingdom, the most celebrated Medicines of the antiepileptic Kind, are such as prove highly friendly to the Nerves, by certain subtle, temperate, and sulphureous Exhalations. Of this Kind, among the harder Substances, are the Shavings of the Teeth of the Sea-horse, of Ivory, Hartshorn, the Bone found in the Head of the Sea-cow, called Manati, the true Unicorn, the human Cranium, and the Ankle-bone of the Hare; but these must be recent, otherwise they will be of little Efficacy. To this Class, also, belong Preparations of the Viscera, and softer Parts, of Animals, moderately dried, and reduced to a Powder. Of this Kind are Earth-worms, Castor, human Secundines, the Blood of a healthy Person moderately dried, the Hearts and Livers of Frogs and Moles, the Powder of Swallows, and, especially, the Fœtus of a Mare cut out of its Mother's Belly, and dried. These Substances, by their grateful sulphureous Exhalations, have a happy Influence on the nervous Parts, and check their exorbitant and irregular Motions. Among chymical Medicines, I can, from Experience, recommend, above all others, the Spiritus Nitri Dulcis, duly prepared; or, rather, the Anodyne Mineral Liquor.

These are the principal Ingredients of the specific antiepileptic Powders, which may commodiously be mixed with Absorbents. Among the celebrated Powders of this Kind, the Draco Figens, which *Dolencus*, in his *Encyclop. Med.* affirms he has found successful in a thousand Instances, deserves our Regard and Attention. It is prepared thus:

Take of Nutmegs, a Dram and an half; of the Ashes of Moles, two Drams; three Ankle-bones of the Hare; of the Powder of Carduus Benedictus, four Scruples; of

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Elk's Hoof, white Amber, Mistleto, each two Scruples and an half; of prepared Pearls, one Dram; of calcined Hartshorn, half a Dram; of the true Unicorn, one Scruple; of human Cranium, three Drams; of Piony-seeds, one Dram and an half; of Sugar-candy, two Ounces; and of Leaf-gold, a sufficient Quantity: Make into a fine Powder; the Dose of which may be half a Dram, or four Scruples.

The *Pulvis Epilepticus Anodynus* of Dr. *Weismann*, a Physician of *Windheim*, is thought to be possessed of no less Efficacy; and is prepared in the following Manner:

Take of uncalcined Elk's Horn, Shavings of Elk's Hoof, Tooth of the Sea-horse, the true Unicorn, the Lapis Manati [a Bone found in the Head of the Sea-cow], red Coral, white Amber, common Crystal, Emerald-stone, Powder of Earth-worms, the Spines of Eel-pouts, the Sulphur vegetable Corallinum, or the Seeds of Club-moss, and oriental Pearls, each one Dram; of native Cinnabar, two Drams; of the Theriaca coelestis, one Scruple; and of the Powder of Castor, half a Scruple: Reduce all to a Powder; a Dose of which is to be exhibited, either in the Water of Lime-flowers, Lilies of the Valley, black Cherries, Piony, Swallows with Castor, or the Aqua Epileptica of *Langius*.

I frequently, says *Hoffman*, prescribe an antiepileptic Specific, much of the same Nature; by means of which, if duly and regularly used, I have seen singularly happy Effects produced in chronical Epilepsies.

Among the antiepileptic Corroboratives, the most efficacious of the vegetable Kind are the Flowers of Lavender and Spike; the Herbs Baum, Rosemary, Rue, and Marjoram; Amber, Aloes-wood, yellow Sanders, Cardamoms, and Cloves; together with the Oils, Essences, Decoctions, Balsams, and Liniments, prepared from them. Among compound Medicines, the Aqua Epileptica of *Langius*, the Water of Swallows, the Balsam of Life, and some others of a like Nature. But in Epilepsies Ambergrise is preferable to all other antiepileptic Medicines, both on account of its sedative and corroborating Qualities. The Spirit of Hartshorn, or of Ivory, either simple or succinated; the Spiritus Busii; and the Oil of Hartshorn, or of Ivory, reduced to the greatest Purity by Rectifications, are, also, singularly efficacious. Decoctions of the Woods, especially Guaiacum, Sassafras, and Sanders, are far from being despicable Remedies, in Cases of this Nature, on account of the resinous Principle they contain. The Use of these, in epileptic Disorders, was long ago celebrated among Practitioners. Thus *Alphonfus Ferrius* and *Jachinus* inform us, that they have known many epileptic Patients cured by taking six or eight Ounces of the Decoction of Guaiacum, twice a Day; using, at the same time, a weaker Decoction of the same for ordinary Drink: And these Decoctions are still more efficacious, if Piony-root, or any other antiepileptic Specifics, are added to them. The Use of them, according to these Authors, is to be persisted in for thirty or forty Days, adding a few Drops of Spirit of Vitriol to each Dose.

Medicines which are calculated for strengthening the Nerves, and restoring the Tone of the Parts, are, also, of singular Service, when applied externally. Thus, Powders prepared of the Herb Marjoram, the Flowers of Lilies of the Valley, and Spike, Marum, Amber, Powder of Cloves, Benjamin, and Nutmeg, I have often found, says *Hoffman*, to be of singular Service; since, besides their nervous Quality, they also incide the thick and viscid Humours. Hence the Snuffing them up the Nostrils excellently contributes to the Colligation of the tenacious Phlegm. The Medicines above-mentioned, especially in Habits abounding with Serum, or such as are inclined to a Cachexy, and in chronical Epilepsies, are, if duly and properly exhibited, of singular Efficacy; both for the Purposes of Prevention and Cure.

But, before they are exhibited, it is necessary the material Causes supporting the Disorder should, as much as possible, be removed. For this Reason, if the Epilepsy proceeds from a Collection of Blood, stagnating and pent up in the Vessels and Membranes of the Brain; and if, by this means, the Vessels are rendered turgid with Blood; or that Fluid too impetuously conveyed to the Head, which frequently happens in hypochondriac and melancholic Patients, as also in Women who are either pregnant or hysterical; then Venesections, and Revulsions of the Blood from the Head, especially by opening the Veins of the Anles; as also the Application of Leeches to the Veins of the Anus, are not only useful, but absolutely necessary. In this Piece of Practice the most skillful, both of the ancient and modern Physicians, agree; among whom the Reader may consult *Galen*, *de Curatione per Sanguinis Missionem*, *Hieronymus Mercurialis*, *Zacutus Lusitanus*, Lib. 1. *de Med. Princip. Hist.* *Celsus*, *Rhaser*, *Schenkius*, Lib. 1. *Obs.* 3. *Rhodius Cent.* 1. *Obs.* 64, 65. as also *Sylvaticus*, *Cent.* 1. *Conf.* 45. who,

who, for the sake of Revulsion and Derivation, orders four Ounces of Blood to be taken, twice a Month, from the Veins of the Anus. Sometimes it is, also, proper to open the external Jugular Veins, in order to procure a freer Discharge and Motion to the Blood, stagnating in the Sinuses of the Dura Mater. Thus, in the *Ephemerides Nat. curios.* Dec. 1. An. 1. Obs. 244. we have an Instance of an Epilepsy cured by opening the jugular Veins. Nor is it an useless Piece of Practice to apply Cuppings, with Scarification, to the Neck, and Parts contiguous to the Head; provided, if there is too large a Quantity of Blood in the Vessels, it is previously drawn to the inferior Parts by Venesection.

But a quite different Method of Cure becomes proper and requisite, when the Disorder arises from an impure Serum lodg'd in the Vessels and Membranes of the Head, which frequently happens in cachectic and scorbutic Patients, by a preposterous Cure of œdematous Tumors of the Feet, by a too speedy Consolidation of old Ulcers or Fontanels, by a Repulsion of the Itch, or scal'd Head, or by an imprudent Cutting of the Hairs in that Disorder called the Plica Polonica. In this Case, the most important Intention of Cure consists in the Discussion, Evacuation, and Derivation of the impure Serum to other Parts. With this View, besides those Medicines which evacuate Serum by Stool, and purify the corrupted Humours, the Antients, as well as the Moderns, have, for eliminating the vitious Matters, recommended Setons, Fontanels, Cauteries, and Vescicatories. See *Hippocrates, de Morbo Sacro, Tulpius, Lib. 1. Cap. 8.* Thus, by *Isthor Trincavelius*, we are informed, that a Man, of fifty Years of Age, was cured of an Epilepsy by the Eruption of filthy and malignant Eruptions over all his Body. And *Hillis*, in the third Chapter of his Book, *De Morb. Convulsivis*, informs us, that an epileptic Girl, falling headlong into the Fire, and, by that means, having her Head accidentally cauterized, was free from her Disorder, so long as the Ulcers, remaining uncured, discharged a Sanies; but that the Epilepsy returned, when these were consolidated.

When, in consequence of an Indulgence in violent Passions, especially Anger, an acrid, bilious, caustic, and volatile Acrimony, conveyed from the Primæ Viæ to the nervous System, produces an Epilepsy; besides the Powders proper for correcting and qualifying this Acrimony, Whey, as also temperate mineral Waters, used for some Months, in Conjunction with a proper Regimen, are of very singular Service. Acidulated Medicines are also highly efficacious in this Disorder; such as the Philosophic Spirit of Vitriol, or the Spirit of Nitre well rectified, reduced into the Form of a Tincture, with Flowers of the wild Poppy and Piony, and exhibited with large Quantities of temperating, diluting, and antispasmodic Waters. Common Spring-water, or pure Rain-water, liberally drank, are, also, of some Service in these Disorders in the Head; since, besides their temperating Quality, and their Power of diluting the Acrimony of the Humours, they also restore Strength, and a due Tone, to the weakened and relaxed Parts.

When an Epilepsy arises from an Excess of Pain, from a Stone, for Instance, lodged in any of the Ureters, a violent Tooth-ach, a Pain of the Ear, Spasms of the Stomach and Intestines; in these Cases Clysters of pure Oil, that of sweet Almonds, for Example, are to be injected; after which, if the Patient is plethoric, Venesection is to be instituted; and a Mixture, composed of the antispasmodic Waters, the Anodyne mineral Liquor, the Pulvis Marchionis, Cinnabar, a few Grains of the Pilulæ Wiklegansii, and Syrup of white Poppies, is to be exhibited internally. In those Epilepsies incident to Children, either from the Gripes of the Intestines, corrupted Milk, or a difficult Dentition, nothing is more expedient, than by proper Medicines to eliminate the acrid Saburra from the Primæ Viæ. This Intention is excellently answer'd by frequent Injections of Clysters, consisting of Milk, with a little Venice Soap previously dissolved in it. The internal Exhibition of the Pulvis Marchionis, with a little Cinnabar, or any epileptic Powder, reduced into an Electuary, with Extract of Rhubarb, Syrup of Succory with Rhubarb and Manna, generally affords very singular Relief. I have, says *Hoffman*, also found the following Mixture to produce very happy Effects:

Take of the Waters of Lilies of the Valley, Primroses, Lime-flowers, and Black Cherries, each one Ounce; of Crabs-eyes, and the Pulvis Marchionis, each one Dram; of the volatile oleous Spirit of *Sylvius*, and the Anodyne mineral Liquor, each ten Drops; of oriental Musk, well mixed with Sugar, two Grains: Mix all together, and exhibit. For I have had frequent Experience of the Virtue of Musk, in mitigating the epileptic Disorders of Children.

When an Epilepsy arises from Worms corroding the nervous Coats of the Intestines; in this Case, after the Exhibition of antiepileptic, demulcent, and oleous Medicines, we must

use anthelmintic Specifics, and gentle Purgatives; the most considerable and efficacious of which are Tansy, Garlick, Camphire, Asa-fœtida, Worm-seeds, Mercurius dulcis, Æthiops Mineral, and the Extract of Spurge.

PRACTICAL CAUTIONS and OBSERVATIONS.

When an Epilepsy returns at stated Periods, or at the Quadratures of the Moon, the Cause of the Disorder is generally lodged in the Stomach, or rather in the Duodenum, and its adjacent Parts, the biliary Ducts, or Pancreas. In this Case it is expedient, a few Days before the stated time of its Return, to inject a Clyster, and exhibit a Vomit, calculated for cleansing and unloading the Primæ Viæ. The most safe and efficacious Vomit for this Purpose is that compos'd of half a Dram of Ipecacuanha-root, mix'd with a Decoction of Raisins. After these Measures are taken, antiepileptic Specifics will prove more efficacious than otherwise they would have done.

Under the Paroxysms, we are carefully to abstain from the Use of Substances that are too volatile, spirituous, fragrant, or fetid; since these fill the Head with their Vapours. Nor is it expedient to prescribe such Substances as either excite Sneezing, or Vomiting; since these derive the Humours to the Head, and often recal the Paroxysms. It is rather expedient to keep the Patient in an erect Posture, and carefully to rub his Hands, and his Feet; for dry and warm Frictions are of singular Service in Epilepsies accompanied with Spasms of the Extremities. Though Vescicatories, Setons, and Applications of the actual Caustery to the Neck, in such Epilepsies of Children as arise from a Collection of sordid Serum, are not altogether useless; yet they sometimes prove prejudicial, and leave a certain Languor, or Stupor of Body, behind them. On the contrary, in obstinate chronical Epilepsies, as also those arising from an acrid scorbutic Lymph, Fontanels and Vescicatories applied to the Legs produce far more happy Effects: Hence the *Indians*, in Epilepsies, with singular Success, burn the Heel, at the Insertion of the Tendon of *Achilles*, and keep the Ulcer open for six Months.

In every Species of Epilepsy it is expedient to abstain from Wine and Malt Liquors, and rather to use pure Water; since I have frequently observed, says *Hoffman*, that this Liquor has either mitigated, or absolutely removed, not only obstinate, but even hereditary Epilepsies. With respect to Venesection, it is to be observed, that it is to be instituted in the Ancles, when the Patient is plethoric, when the Paroxysms seize about the Equinoxes, or Solstices, and especially if the Patients are hypochondriac, subject to the Hemorrhoids, or melancholic; but a Clyster must be previously injected, in order to evacuate the viscid Humours, together with the Flatulences. When the hypochondriac Passion sustains and supports the Epilepsy, in this Case, after bleeding the Patient as his Condition shall require, I have known the Paroxysms remarkably mitigated by drinking temperate mineral Waters; but Bathing is to be abstained from.

Before the Use of antiepileptic Specifics, evacuant, temperating, and alterative Medicines must be previously exhibited, otherwise they do more Harm than Good. When an Epilepsy draws its Origin from external Injuries done to the Head, and the Stagnations, or Extravasations of the Humours are produced by them, then Preparations of Cinnabar, reduced to a fine Powder by Trituration and Levigation, that their Particles may mix with the Mass of Blood, are to be exhibited in pretty large Quantities, in Conjunction with other Cephalics and Diaphoretics; since they powerfully resolve and discuss the Lymph stagnating in the Brain. Among external Medicines calculated for checking the Violence of the Paroxysms, I have found none, says *Hoffman*, more effectual, than a Liniment composed of human Fat, one Ounce; expressed Oil of Nutmegs, half an Ounce; and of the Oils of Rosemary, Lavender, and Rue, each a Dram. The Neck and Spine of the Back are to be anointed with this Liniment. When the Patient is so fortunate as to be previously sensible of the approaching Fit, it is expedient, if possible, to prevent it, or at least to mitigate its Fury, by Clysters, Frictions of the inferior Parts, and a proper Regimen.

Opiates, and too volatile Substances, must be cautiously exhibited to Children, and Patients of delicate Habits; since they bring on an uncommon Weakness, and Want of Tone, in the Brain and nervous Parts. Thus, I once knew, says our Author, an Infant seized with a mortal Epilepsy, by the frequent Use of Diacodium. I have also observed, says he, that the anodyne Powders, and Preparations of the Theriaca, frequently exhibited to Children, have produced a kind of Stupor of Mind, which remained with them for a long time.

When an Epilepsy is of such a Nature as to return upon the slightest Causes, and be augmented by a Farrago of Medicines, it is expedient to abstain from a Multiplicity of them, and, by an obstinate Perseverance in a proper Regimen, to combat, and, if possible, prevent this Disorder. The Regimen proper in this Case is succinctly, but accurately, described by *Celsus*, in the 2d Chapter of his 3d Book, in these Words:

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"The Patient, says he, must screen himself from the too violent Influences of the Sun, abstain from Bathing, keep at a Distance from the Fire, shun all heating Substances, Cold, Wine, Venery, the Sight of Precipices, and all terrible Objects, Vomiting, Weariness, Anxiety, and every kind of Business: He must, also, abstain from Food one Day in four." Epileptic Patients, especially Children, are also to abstain from all sweet fermentable Substances, Summer Fruits; and others of a like Nature. And young Persons, subject to this Disorder, are carefully to abstain from Venery; for *Hieronymus Mercurialis*, in *Prælect. Patav.* justly affirms, "that many of the German Youth become epileptic by an immoderate Use of Venery." Intense Thoughtfulness, or Fatigue of Mind, is also to be guarded against by epileptic Patients; for, according to *Celsus*, Application of Mind is not safe for those who are subject to this Disorder, or have their Heads any ways affected. *Galen*, in the 5th Chapter of his 5th Book *De Loc. affect.* gives us a memorable Instance of this in the following Words: "A certain young Schoolmaster, says he, when he had either taught with too much Assiduity, thought too attentively, or abstained from Aliments so long as to become excessively hungry, was seized with an epileptic Fit." The like is also reported of *Franciscus Petrarca*, who, after many abstruse Meditations, is said to have been seized with epileptic Paroxysms. But, above all things, every Occasion of Terror, Dread, or Anger, is to be carefully avoided; because these have a strong Tendency to bring on the Paroxysms. *Frederic. Hoffman.*

Dr. *Pitcairn*, when arrived at the last Stage of his Life, and seemingly under the Influences of Religion, and a sincere Regard for the Happiness of Mankind, as a kind of sacred and inestimable Legacy, leaves the following Directions for the Management of epileptic and paralytic Cases.

"In an Epilepsy, says he, or a Palsy, after the repeated Use of Emetics and Vescatories, let the antiepileptic Tincture be exhibited. To young Persons, and those not far advanced in Years, Mercury, and Broths prepared with Earth-worms, are to be exhibited. The antiepileptic Tincture is prepared in the following Manner:

Take of wild Valerian-root, and bastard Dittany, each six Drams; of Pigeon's Dung, and Castor, each half an Ounce; of Mistleto, six Drams; of Cinnamon, and the Tops of Rosemary, each half an Ounce; of Senaleaves, two Ounces; of Jalap, and Turbith, each half an Ounce: Infuse in a cold Place for ten Days, in eight Pints of white French Wine. To the Liquor, when strained off, add of the Shavings of a human Cranium, and Elk's Hoof, each two Drams; and four Ounces of Sugar, with which four Scruples of the Oil of Amber, and two Drams of the Spirit of Castor, are duly mixed. Of this Preparation let two Ounces be exhibited as a Dose to Patients of about seven Years of Age; and, to Adults, Four.

"In paralytic Cases it is often expedient, in the Decline of the Disease, to exhibit this Tincture without the purgative Ingredients. It is also proper, after liberal Frictions of the affected Members before a Fire, to immerse the Patient in cold Water."

Gheyne is of Opinion, that the Epilepsy differs very little, or not at all, or, at most, in a few Circumstances only, from hypochondriac and hysteric Fits; which last, when violent, terminate always in these epileptic Fits; as they, on the other hand, when they become weak, dwindle into the hysteric Kind. In this Case, the Diet must be much more strict, cool, and moderate, than in hysteric and hypochondriac Disorders; and the Medicines stronger, and oftener repeated, especially Vomits, Steel, and Bitters. Dr. *Taylor*, of *Croydon*, says *Gheyne*, cured himself entirely and absolutely of the most violent, constant, and habitual Epilepsy that, perhaps, ever was known, after having, in vain, tried all the Methods and Medicines advised by the most eminent Physicians of his Time, by a total Diet of Milk, without Bread, or any other Vegetable, or any thing, (besides a Spoonful of compound Peony-water, sometimes, to prevent its curdling) confining himself to a Pint in a Morning, a Quart at Noon, and a Pint at Night, of the Milk of grass-fed Cows in the Summer, and those fed with Hay in the Winter; the Milk of Cows fed with Grains always inflating him, and lying uneasy at his Stomach. He had continued in perfect Health and Vigour (having had several Children) seventeen Years, when I saw him, and received this Account from him, inasmuch that he could have played four or five Hours at Cricket, on *Banstead-Downs*, without Weariness, or profuse Sweating; and probably might have continued many Years longer in perfect Health, (as he did seven or eight Years more) had he not entered upon a different Regimen of Diet, and come to eat animal Food; by which, in a short time, he was destroyed. Some others have been cured, by me, by

a Regimen of Diet less strict; and the Medicines already suggested; but I believe none ever were cured, who have been come to Maturity, without a very exact low Regimen, continued during all their Lives; the transgressing it, for any long time, always bringing their Disorders back, if not something worse. And I believe a total Milk and vegetable Diet as absolutely necessary for the total Cure of the Epilepsy, as it is for the Gout, or a Consumption. *Gheyne's English Malady.*

Erastistratus advis'd epileptic Patients to eat and drink but little, to bathe seldom, to use a great deal of Exercise; and to avoid every thing that induces to sudden Change in the Body. *Galen de Venæsect. advers. Erastistratos.*

Apuleius, in his first Apology, quotes a Treatise of *Theraprastratus* concerning the Epilepsy, wherein the Author says, that the Exuvie of that Kind of Lizzard call'd *Stellio* is a Cure for this Distemper; but that it is difficult to be got, because the Animal eats it as soon as 'tis cast off.

Asclepiades us'd to bleed in the Epilepsy.

We learn from *Caelius Aurelianus*, *Lib. 1. Cap. 4.* that the Antients gave in an Epilepsy human Fleth, and that of Weasels dry'd for a long time, as also of Horses, who have leprous Warts growing upon their Legs, of Asses or Mules. They gave also the Member and Testes of the River or Sea-dog, and Millepedes; as also Scales of Iron, with Water in which Iron had been extinguish'd: They prescrib'd, also, the Brain of a Camel, dry'd and cut; and order'd Children to smell of it, but Adults to drink it, with Hydromel and Vinegar, in the Quantity of three Cyathi; the Heart of an Hare, and the Brain of the *Gavia*, an aquatic Fowl. They also us'd Asses Milk with Salt; and human Blood, and that of a Sea-tortoise, or Sea-calf; and not only Blood, but also *Gaugula*: Bulls Blood is also recommended; but *Caelius Aurelianus* thinks that dangerous, and brings the Example of *Themistocles*, who was poison'd with it, to support his Opinion.

Oribasius describes the Cure of an Epilepsy, both in the acute and chronical Sort, that is, in the Fit, as well as out of it: When the Fit is over, he orders Bleeding; and, after four or five Days, when the Body is a little recruited, Purging; three Days after, Cupping and Scarifying: He repeats these Evacuations, and sometimes Sinapisms, at convenient Distances, and, in the Intervals, gives proper Nourishment, and uses warm Medicines, such as Castor, Rue, Mint, and the Cyrenaic Juice. He mentions Peony-root, in the Form of an epileptic Necklace; however lays the greatest Stress, where it ought to be laid, upon Evacuations. *Galen*, in his Epistle to *Cecilianus*, writes on purpose upon this Argument, and describes the Manner of Diet at large.

Trallian recommends the Hoof or Skull of an Ass, as a precious Secret, which he learnt in *Spain*.

The Antients us'd to give one Dram of the Root of the white Bryony, for a whole Year, to those that were subject to Epilepsies. *Harris Dissert.*

Paracelsus speaks of a Preparation, of which the Flowers of Antimony are the Basis, which, he says, is an excellent Remedy for an Epilepsy; but he does not tell us the manner of preparing it. *Paracelsus* fixes the Dose of this Arcanum at nine Grains before the Paroxysm, and eighteen in it.

He also recommends his Sulphur of Vitriol for this Disorder; but owns, that Opium has a marvelous Effect in their Cure.

A tart Liquor ouing from the Root of the Walnut-tree, when cut off in the Month of *May*, is found an excellent Remedy in an Epilepsy.

Gordonius, who wrote in 1305, in his *Lilium Medicinæ*, describes the *Pulv. ad Guttatam*, famous then in *France* for the Cure of an Epilepsy.

John of Gaddesden recommends, in epileptic Cases, a Boar's Bladder boil'd, Mistleto, and a Cuckow.

The Powder of the Lycopodium is us'd in *Germany*, in the Cure of Epilepsies in Children, from ten Grains to thirty. *Geoffroy.*

Essential Oil of Rue is a most excellent Remedy for an Epilepsy proceeding from a cold Cause. *Boerhaave's Chym.*

A Jay dry'd and powder'd is a Specific for an Epilepsy.

Epilepsies, whose Causes reside in the Prime Væ, are sometimes cur'd by a few Drops of the Liquor of the Solution of Copper by Sal Ammoniac, given in the manner as directed under the Article *Æs*.

Rue-water, prepar'd by repeated Cohobations, is excellent in Epilepsies and Hysterics.

Tincture of Amber is very strongly recommended by *Boyle* and *Helmont*, as a very excellent antiepileptic Medicine.

It may be taken three times a Day, in *Spanish* or *Canary* Wine, after the Stomach has been first emptied and cleansed.

Galen gives us an Instance of the surprising Effects of *Esfluvia*, with respect to Peony-root, which he, by repeated Experiments, satisfied himself, cured a Lad of an Epilepsy, by being hung about his Neck; for the Distemper return'd, if this was taken off.

I knew a young Lady that was afflicted with a radicated Epilepsy; who, after numberless Medicines prescrib'd by Physicians had prov'd ineffectual, and after her Fits came upon her severely eight or ten times a Day, was cured by the Powder of true Mistletoe of the Oak, continued for some Days, near the full Moon, in the Quantity that would lie upon a Sixpence, every Morning, in black Cherry-water, or Beer. And tho' this Remedy had scarce any visible Effect upon her, yet, after the first Day it was taken, the Fit never return'd but once. The Person who advis'd this Remedy, profess'd he had therewith constantly cured that Distemper, when he could procure the genuine Simple. *Boyle.*

Half a Dram of choice Amber, finely powder'd, being exhibited for six or seven Weeks together, once a Day, when the Stomach is empty, in about four Ounces of good White-wine, is recommended by *Boyle*, in the Cure of an Epilepsy.

In epileptic Patients, Urine unusually thin and crude, if there be no Repletion, signifies an approaching Fit; and so much the more if it be accompanied with a Pain or Tension of the Acromium, Neck, or Back, or Stupor of the Body, or troublesome Dreams. *Hippocrat. Coac. Prænot.*

Panaculus, and *Pabius Columba*, are very copious in their Praises of the Root of the *Valeriana sylvestris major*; one or two Doses of which, he affirms, will generally cure an Epilepsy. He tells us, that he presented it to many of his Friends, who, next to the divine Blessing, profess'd that they ow'd the Restitution of their Health to the Powder of this Root. The Dose is half a *Cochleare*, in Wine, Water, Milk, or any other proper Liquor; to Children a less Quantity is given in Milk.

Dr. Cheyne remarks, that the *Valeriana sylvestris major* is certainly one of the most active and volatile of the Vegetable Kingdom, and seems to act chiefly by promoting Perspiration, and a gentle Diaphoresis. The Root powder'd, and given with Cinnamon of Antimony, and Powder of Hellebore, has frequently good Success; and a Tea, made of its Leaves, is an admirable Diluter, and may be long continued with Advantage in nervous Cases.

Native Cinnabar is, also, much recommended by *Crato*, for the Cure of an Epilepsy; whence it is call'd the *Magnes Epilepsicæ*.

The celebrated *Boerhaave* remarks, that as all the Variety of Motions, in epileptic Fits, consist in irregular Contractions of the muscular Parts, they must proceed from various involuntary and anomalous Influxes of the nervous Juices into these Parts, press'd into the Nerves from the common Sensory by as various Causes.

The principal of these Causes are, according to him, first, either hereditary, and receiv'd immediately from the Parents; or, perhaps, from some of the Ancestors, the Distemper having lain dormant in the Parents.

Secondly, they may be born with the Patient; being excited by the Mother's Imagination, upon seeing a Person in epileptic Fits.

Thirdly, Injuries done to the Meninges, Superficies, Substance, or Ventricles of the Brain, either by Wounds, Contusions, Abscesses, Pus, Sames, Ichor, Blood, acrid and fetid Lymph, bony Excrescences of the internal Parts of the Cranium, Depressions of the Skull, a cartilaginous State of the Sinuses of the Dura Mater, Fragments or Splinters of Bones, or of Instruments wounding the Meninges or Brain, or Quick-silver by any means convey'd to the Brain, may cause an Epilepsy: Or it may arise from ill impressions on the Brain from Inflammations, Corruptions, or Erosions of the Meninges, from a Caries of the Bone, black Bile, or Venereal Gummata. But all these Causes are enhanc'd by whatever causes an Afflux of Blood to the Head; as a Plethora, Motion, Heat, Drunkenness, Gluttony, Venereal Enjoyments, an extraordinary Quickness of Parts, and profound Genius, deep Meditation, great Affections of the Mind, a strong Imagination, and particularly Fear and Terror.

Fourthly, all things violently affecting the nervous System may produce an Epilepsy; as great and periodical Pains, the hysteric Passion, Rasions and Irritations of the intestinal Tube by Worms, difficult Dentition, any acrid Humour, the curdled, acrid, and acid Milk in the Stomachs of Infants, the Meconium retain'd, variolous Contagion, the Heart-burn, any ulcerous Matter contain'd in any Part of the Body, Hunger, a Surfeit, all Sorts of acrid Meats, Drinks, Medicines, and Poisons.

Fifthly, an Epilepsy may arise from a Suppression of some habitual Evacuation, whether of Sanies, Pus, the menstrual, lochial, or hæmorrhoidal Discharge, or of Urine.

Sixthly, Fumes arising from distant Parts of the Body, where the immediate Cause resides, may ascend to the Brain, and excite an epileptic Paroxysm; and in this Case there is a Sensation of a sort of Vapour ascending to the Head.

It appears from Observation, and Dissections, that these are the genuine Causes of Epilepsies.

In consequence of an Epilepsy, first, the Brain is impair'd

by so many violent and repeated Convulsions; whence Vacillation of the Memory, Dulness of the Senses, Idiotism, Palsies, Apoplexies, and Death.

Secondly, the Nerves and Muscles are injur'd; whence these, and consequently the Limbs, are contracted, distorted, and deform'd.

Thirdly, the violent Spasms excite an Inflammation, Gangrene, and Blackness of the Parts; those especially which are adjacent to the Muscles convuls'd.

Fourthly, many involuntary Secretions are made during the Violence of the Paroxysm: Thus Meat, Drink, Lymph, Bile, Froth, Mucus, and Saliva, are discharg'd upwards; and green Fæces, Seed, and Urine, downwards; and Blood both ways.

An hereditary Epilepsy is incurable. An idiopathic Epilepsy, or that whose Cause resides within the Cranium, is very difficult of Cure, because the Parts affected are, in some degree, out of the Reach of Medicines: But a symptomatic Epilepsy is often to be cur'd.

From what has been said relative to an Epilepsy, it appears, that various Remedies and different Methods of Cure, are requir'd in this Disorder; which must be determin'd from a Knowledge of the Cause of the offending Matter, of the Part to which Remedies are to be directed, and of the Emunctories by which the Matter producing the Disorder is to be expel'd.

In order to treat an Epilepsy judiciously, we must first examine strictly, and inform ourselves, whether it is hereditary, idiopathic, or symptomatic; and then diligently search where the stimulating Matter resides, which causes the Epilepsy: And by this means we may be able to adapt a proper Remedy to the Cause of the Distemper; and not run into the Error of those who treat all Kinds of Epilepsies in the same manner, by which the Disease is often render'd much worse.

Those Epilepsies which arise from the first and second Causes above-mentioned, that is, those which are hereditary, or brought into the World with the Patient, admit of no radical Cure; but the remote Causes which excite the Paroxysm, and which are continually renew'd, may be safely remov'd: These are infinite, and can be learnt by Observation only; they are, therefore, diligently to be remark'd; and, when known, treated according to their respective Natures.

Tho' it may not be possible to remove entirely the first Cause of an Epilepsy, yet 'tis in our Power always, to take away the exciting Causes: For Example, if an Excrescence within the Cranium is the original Cause of an Epilepsy, tho' that cannot be remov'd, yet we may prevent the Brain from being forc'd against it by a Plethora, or extraordinary Motion of the Blood.

Epilepsies, produc'd by the third Causes mentioned above, are distinguish'd by other Symptoms of an injur'd Brain, accompanying them, or preceding them; as Pain, Heaviness, Fulness, a Wound of the Head, a Vertigo, universal Tremor, Sparkling, or Immobility of the Eyes, Circumgyration of the Head, or of the whole Body. It is very difficult to remove Causes of this Kind, because it is no easy Matter to be particular in distinguishing them, as they reside within the Cranium: Revulsion, however, Evacuations, discutient and depuratory Remedies, are of Use: Hence Bleeding, Cathartics, Emetics, Applications of the actual Caustery, Issues, Setons, Epispastics, Incisions of the Head, Trepanning, Antihysterics, and Opiates, are serviceable; and the Choice of these must be directed by the immediate Cause, when that can be discover'd.

The Method of treating Epilepsies arising from the fourth Class of Causes must be adapted to the particular immediate Cause: Hence Anodynes, Paregorics, Narcotics, Antihysterics, Anthelmintics, Medicines which attenuate the Humours, and correct Acrimony, a proper Incision of the Gums, a Removal or Correction of ulcerous Matter, are, when properly apply'd, Antiepileptics.

When the fifth Cause, that is, a Suppression of some habitual Evacuation, causes an Epilepsy, the immoveable and stagnating Matter must be resolv'd, the Passages relax'd, and the Matter evacuated: Hence Vesicatories, Caustics, Issues, Setons, Medicines which promote the lochial, menstrual, or hæmorrhoidal Discharges, and Diuretics, are frequently of singular Benefit.

Epilepsies arising from the sixth Cause may be remov'd by curing the Weakness of the too easily irritable nervous System: This is to be accomplish'd by Exercise and Motion of all Kinds, as Riding on Horseback, or in a Chariot; by the Use of Aromatics, Steel, and corroborative Medicines; as also by deep and long-continued artificial Exulcerations of the particular Part where the Cause resides, either by Incision, Caustics, or Vesicatories, which are to be kept running for a long time; by the Application of Suppuratives mix'd with Corrosives; and, lastly, by Ligatures, which compress the particular Nerves affected.

Some People subject to Epilepsies at first complain of a Sensation like the Dropping of cold Water on some Part, where the Fit always begins, as the Calcaneum, Calf of the Leg, Shoulder, &c. and then this Sensation gradually ascends towards the Head. In such Cases, if a Ligature can be made before this Sensation ascends as far as the Trunk, the Paroxysm is prevented: But if, in the Ascent from the inferior Parts, it once reaches the Left Hypochondrium, the Fit begins; as it does, when it reaches the Neck, if it proceeds from the Shoulders or Arms.

The following Case, from the *Edinburgh Medical Essays*, and those given under the Article ALBADARA, relate to this Species of Epilepsy:

In July 1720, a Woman about thirty-eight Years of Age was brought to me; she had laboured twelve Years under an Epilepsy, which, from one Fit a Month, was come to four or five violent ones every Day, each continuing an Hour, or an Hour and an half; by which she was rendered mopeish and silly, and incapable to take care of her House and Family: Her Husband was reduced in his Circumstances, from his Affection and Care for her, having got and followed all the Advice he could. Evacuations of all Kinds had been tried; the epileptic and cephalic Tribe of Medicines had been ransack'd, and many other Medicines had been tried in vain, the Disease growing more severe: Her Fit always began in her Leg, toward the lower End of the Gastrocnemii Muscles; and in a Moment reach'd her Head, threw her down, foaming at her Mouth, with terrible Distortions of the Mouth, Neck, and Joints. Whilst I talked to her, she fell down in a Fit: I examined the Leg, and found no Swelling, Hardness, Laxness, or Redness, different in that Place from what was in the other Leg; but suspecting, from her Fit beginning always at that Part, that the Cause of her Disease lay there, I immediately plunged an Incision-knife about two Inches into it; where I found a small indurated Body, which I separated from the Muscles, and then took it up with a Forceps: It proved an hard cartilaginous Substance or Ganglion, about the Size of a very large Pea, seated on a Nerve, which I cut asunder, and took out the Tumor. She instantly came out of the Fit, cried out she was well, and never after had a Fit, but recovered her former Vigour both of Body and Mind. *Med. Essays, Vol. 4. p. 416.*

From what has been said, it evidently appears, how little Dependence is to be had upon all the boasted antiepileptic Specifics; that a genuine Epilepsy is always immediately caus'd by too forcible an Action of the Brain on the Nerves administering to muscular Motion; whilst those subservient to Sensation are depriv'd of a due Influx of the nervous Fluid; and that the Causes exciting a Paroxysm are very different and numerous.

Hence also the Origin, Nature, Effects, and Cure, of those singular Species of Convulsions call'd *Opisthotonos*, *Emprosthotonos*, and *Tetanus*, are evident, as they are only particular epileptic Paroxysms. *Boerhaave Aph.*

Salt of Tin was once thought, by the celebrated Author above-mentioned, a sort of Specific in the Cure of an Epilepsy, from some successful Experiments he made with it; but farther Experience convinc'd him, that it was a Cure only for that Species of Epilepsy, which is caus'd by an Acid stimulating the nervous Coats of the Stomach and Intestines.

Hemricus a Bra, a Physician of Zutphen, has wrote a Book expressly upon the Subject of antiepileptic Specifics. It is printed *Leovardæ* 1616. 12mo.

EPIESMON, ἐπιλήσμων from ἐπιλανθάνομαι, to forget; one who has lost his Memory. *Coac.* 161. where it is said, that an Apoplexy, Epilepsy, or Loss of Memory may be expected from a Cephalalgia without a Fever, a Scotomia, a Slowness of the Voice, or a Numbness of the Hands.

EPILOGISMUS, ἐπιλογισμός from ἐπιλογίζομαι, to infer by Ratiocination; is the Method of acquiring Knowledge, founded on common Reason, and universal Assent; as *Analogismus* collects it from things evident. *Galen, Csm.* 1. in *Prognost.* ἢ ἐπιλογισμός is, also, ὁ συνδυασμὸς λόγων, "an apparent Reason;" or Way of Reasoning, which taking its Beginning from things manifest, and never losing Sight of them, makes its way to Objects, which, tho' sensible, are yet obscure. *Idem, de Scitis ad eos qui introducuntur*: And, in the last Sense, ἐπιλογισμός is an empiric Way of Ratiocination, which is conversant about Things; as ἀναλογισμός has for its Object Things occult and obscure. *Idem, de Subfigurat. empirica.*

EPILOGOS, ἐπίλογος from ἐπιλέγω, to add to what has been said; in *Hippocrates, de Nat. Hum.* bears a peculiar Sense, and signifies a Way of Reasoning, or Ratiocination.

EPIMEDIUM.

The Characters are;

The Leaves are like those of Ivy, and grow three on the Top of each Branch: The Stalk is divided into three Branches at each Joint, and the triple Division is continued in the Subdivisions: The Calyx is compos'd of four Leaves: The Flower

consists of four Petals, which are tubulated and hollow'd into blind Canals, and furnished with four Stamina: The Ovary is seated in the Bottom of the Calyx, and is furnish'd with an erect Tube or Pointal, which becomes an uncapfular bivalve Pod, containing round flat Seeds. *Boerhaave, Index alter; Part. 1. p. 307.*

Boerhaave mentions but one Species of this Plant; which is, Epimedium, *Offic. Ger.* 389. *Emac.* 480. *Raii Hist.* 2. 1330. *C. B. P.* 323. *Hist. Oxon.* 2. 196. *Park. Theat.* 1365: *Tourn. Inst.* 232. *Elem. Bot.* 199. *Boerb. Ind.* 307. *Epimedium quorundam*, J. B. 2. 395. *Epimedium quorundam floribus purpureis cum apicibus luteis*, Chab. 165. BARREN-WORT.

It is cultivated with us in Gardens, and the Root and Leaves are the Parts used in Medicine: The Leaves triturated, and made into a Cataplasm with Oil, and so apply'd to the Breasts, prevent their farther Growth: The Root causes Barrenness: The Leaves triturated, and drank to the Quantity of five Drams, in Wine, for five Days together, after the menstrual Purgation, effectually prevent Conception. *Dioscorides, Lib. 4. Cap. 19.*

EPIMELIS, ἐπιμελία. *Galen*, in his *Exegesis*, says, that *Dioscorides*, in the first Book of his *Materia Medica*, makes the *Epimelis* a kind of Medlar, call'd also *Sitanian*. But some take it for a sort of small wild Apple, call'd also *AMAMELIS*, which see.

EPIMORIOS, ἐπιμόριος, from μέρα, to divide; superpartial, in *Galen, de Diff. Puls.* Lib. 1. *Cap. 9.* is an Epithet of the Difference of Pulses with respect to their Inequality of the Rythm or Time which they keep in beating. All Rythms (or Modulations of the Pulse, with respect to Number) consist, he says, of equal or unequal Proportion; of equal, when the Time of the Distention is equal to the Time of Contraction; unequal, when one exceeds the other; and this Inequality may arise from certain or uncertain Excesses; the certain Excesses may either be in multiple Proportion, or as Number to Number, which is call'd EPIMORIOS. See ARYTHMOS.

EPIMULIS, ἐπιμυλία, the same with ἐπιγομφία, (Epigonatis) or μύλα, (Myle) the Patella of the Knee.

EPINEMESIS, ἐπινέμεισις ἢ ἐπινέμεισις, from νέμω, to distribute, *Hippoc.* ἐν παρυγγίλ. is a just and prudent Management requir'd in a Physician, under the various Alterations of the Disease, as it is exasperated or remitted.

EPINENEUCOS, ἐπινενευκός, from νεύω, to nod, incline, is an Epithet of a Pulse which beats unequally in different Parts of the Artery, as when it rises strong against the two middle Fingers of the Physician who feels it, and weaker at the Extremes; it is also call'd πενενευκός, (Peneneucos) and is familiar, as *Galen* says, to Hætics.

EPINEPHELOS, ἐπινέφελος, from νέφελ, a Cloud, cloudy; is an Epithet applied to an Enazorema in the Urine, which appears like a Cloud, as in *Agr.* 1, 3, 5. *Epidem. Lib. 3.* It is sometimes taken substantively, and has ερυθρός, "red," join'd with it, as 4 *Aph.* 70. where it is said, that when the Disease comes to a Crisis on the seventh Day, a red Cloud appears in the Urine on the fourth Day.

EPINOEMA, ἐπινόημα, from ἐπινοέω, to excogitate, an Invention. *Hippocrates de Art.*

EPINOTION, ἐπινότιον, from ἐπὶ, upon, and ὥτις, the Shoulder; *Omo-plata*, or Shoulderblade.

EPINYCTIS, ἐπινυκτίς, from ἐπὶ, on, and νύξ, Night, is a very bad Sort of Pustule, as *Celsus* says, of a white or somewhat livid or black Colour, the same as its Humour, and attended with a violent Inflammation all around it; when it is open'd, there is an Efflux of Sanies, and a mucous Exulceration is found within. The Pain is more violent than in proportion to its Magnitude; for it is no bigger than a Bean. It arises in the upper Parts, and breaks out spontaneously, and generally by Night; whence it took its Name *Epinyctis*. Thus *Celsus*. We are told by *Paulus* and *Actius*, that it creates no great Pain to the Patient in the Day-time, but is very painful and troublesome in the Night; whence it had the Name. Now, both Sides may be in the Right; for, it is probable, that the Hour of its Eruption might be also that of its Exacerbation: In the other Characters they agree with *Celsus*; nor does it hinder, that he calls them Pustules, and they small Ulcers; for Pustules are really such; or that he describes them of various Colour, and they reddish; for under this are comprehended the sublivid and the blackish. The *Epinyctis* is defin'd by *Pliny, Lib. 20. Cap. 6.* a nocturnal Pustule of a livid Colour, and most troublesome in the Night. They are reckon'd by *Celsus* among those Kinds of Pustules which infect the Skin; and, by *Galen*, among preternatural Tumors, which deform the Skin, in *Lib. de Arre, Locis, & Aquis, Epinyctides* are accounted among endemic Distempers.

In the Cure of this, as well as all other Eruptions of Pustules, the first Thing is, to walk much, and to use Exercise, if the Disease will not admit of Gestation: The second Means is, to diminish the Food, and abstain from all acrimonious and extenuating Meats, and to make the Nurse do the same,

same, if it be a sucking Child who is affected in this manner. Besides this, if the Pustules be small, and the Patient robust, he ought to sweat in the Bath; and, at the same time, to sprinkle Nitre upon the Pustules, and anoint himself with a Mixture of Wine and Oil, and then descend into the Solium. If this Method be ineffectual, or if the Pustules be remarkably large, an Application of Lentils is to be made; and the Cuticle being removed, we must proceed to mild Medicines. The *Epinyetis*, in particular, after the Use of Lentils, is successfully cured by the Use of the *Herba Sanguinalis*, and green Coriander. Ulcerations from Pustules are healed by Litharge, mixed with the Seed of Fenugreek, and moisten'd with Oil of Roses, and Juice of Endive, to the Consistence of Honey. For Infants, in particular, affected with the Pustules, take of the Stone call'd *Pyrites*, eight Drams twenty Grains, with fifty bitter Almonds; and mix them with a Quarter of a Pint of Oil, and anoint the Parts; but, before this is used, the Pustules must be anointed with Cerufs. *Celsus*, L. 5. Cap. 28.

EPIOS, ἔπιος, mild, gentle, an Epithet bestow'd by *Hippocrates*, in the *Epidemics*, on Fevers of a favourable Kind.

EPIACTIS, ἐπιπαλις, by some call'd *Helleborine*, is a small Shrub, with very small Leaves; it is good, being drank, against Poisons, and hepatic Disorders. *Dioscorides*, Lib. 4. Cap. 109.

Boerhaave takes this to be the *Helleborine latifolia montana*.

EPIPAROXYSMUS, ἐπιπαροξισμός, (from ἐπὶ, a Preposition importing Addition to the Word with which it is compounded, and παροξισμός, a Paroxysm, or Exacerbation) is, when the Patient suffers more Exacerbations than are usual in a Fever.

EPIPASTON, ἐπίπασον, (πάσχω) the same as **CATA-PASMA**, which see.

EPIPECHY, ἐπίπηνχυ, from ἐπὶ, above, and πῆχυς, the Cubit, is the Part of the Arm above the Cubit, as the *Agostus* (which see) is the Part below it.

EPIPEPHYCOS, ἐπιπυφύκος, from ἐπὶ, upon, or close to, and φύω, to grow, signifies the same as **ADNATA**, which see.

EPIPHENOMENA, ἐπιφανόμενα, from ἐπὶ, importing Addition, and φαινόμενον, a Phenomenon, or Symptom, in 1 *Aph.* 12. are those adventitious Symptoms which appear not before the Disease is actually form'd, and seem to be much the same with the **EPIGINOMENA**, which see.

EPIPHANIA, ἐπιφάνια, from ἐπὶ, upon, and φαίνομαι, to appear, was a Word, used by one *Theon*, a Physician, to signify the exterior Habit of the Body. *Galen*, de Sanit. tuend. Lib. 3. Cap. 8.

EPIPHLEBOS, ἐπίφλεβος, from ἐπὶ, and φλέψ, a Vein, is one whose Veins appear prominent and conspicuous, as in those who are lean, and of a hot Temperament. The Word occurs 6 *Epil. Sect.* 4. *Aph.* 23. and in *Aretæus*, de Curat. Acut. Morb. Lib. 2. Cap. 2.

EPIPHLOGISMA, ἐπιφλογισμός, from ἐπὶ, and φλογίζω, to inflame, of φλόξ, a Flame, in 5 *Aph.* 23. is a violent Inflammation, attended with a Pain, and a Tumor of a sort of redish and sanguineous Colour, from the Blood which lately flow'd to the Part, where *Galen* expounds ἐπιφλογισμός, by an Ardor and Fervor, like that of a Flame, from the excessive Heat of the Humours.

EPIPIORA, ἐπιπόρευσις, from ἐπιφέρειω, to carry with a Force, signifies, in a medicinal Sense, an impetuous Flux of the Humours, especially an inflammatory one of the Blood, to the whole Body, or any Part thereof; but is more particularly used for an inflammatory Influx of the Humours upon the Eye. *Galen*, de G. M. S. L. Lib. 4. Cap. 7.

What Physicians call *Epiphora*, or a weeping Eye, is that Species of Disorder in which the Tears do not, as they ought, descend from the *Puncta Lachrymalia*, but drivel from the Eyes, over the Checks, in such a manner, as at once to produce Deformity and Pain in the Patient. Some confound this Disorder with a *Fistula Lachrymalis*, but improperly; since, in the latter, pure Tears are not discharged, but Tears, mix'd with a purulent Matter, flowing from a latent Ulcer in the *Saccus Lachrymalis*. But, that we may the more easily and accurately discover the Nature of both these Disorders, we shall, as briefly as possible, exhibit the State, Figure, and Situation, of the lachrymal Ducts or Passages. In *Tab.* 37. *Fig.* 6. the Letters *a a* represent the *Puncta Lachrymalia* in the Eyelids; and *b*, the *Caruncula Lachrymalis*. *Fig.* 7 and 8. represent the Ductus Lachrymales of both Eyes, entire, separate, and in such a State as they pass from the Eyelids to the Nostriils. The Letters *a a* exhibit the *Saccus Lachrymalis*; *b b*, the *Puncta Lachrymalia*, with their Ducts or small Tubes, *c c c c*, running off to the *Saccus Lachrymalis*. The Letters *d d* represent the nasal Duct; and *e e*, its Mouth, opening in the Nostriils. *Fig.* 9. represents the Communication of these Ducts with the Eyes; *a a*, the *Puncta Lachrymalia*; *b*, the *Caruncula Lachrymalis*; *c c*, the Ducts running from the

Puncta Lachrymalia to the *Saccus Lachrymalis* *d*; *e*, the nasal Duct; and *f*, its Extremity, opening into the Nostriils.

This Disorder may arise from various Causes; for whatever prevents the Course of the Humours from the Eye through the *Puncta Lachrymalia* and nasal Duct to the Nostriils, produces an *Epiphora*, or weeping Eye; for so long as the Eye and lachrymal Duct are sound and entire, that Liquor discharged from the *Glandula Lachrymalis*, for moistening and cleansing the Eye, insensibly drops through the *Puncta Lachrymalia*, the *Saccus Lachrymalis*, and the nasal Duct, into the Nostriils. A weeping Eye, or the *Oculus Lachrymans*, is produced,

First, when any Tumor, or Tubercle, such as an *Encanthis*, appears in the greater Canthus, or that which is next to the Nose, and disorders the *Puncta Lachrymalia*.

Secondly, when, after an Exulceration, Burn, or any other Misfortune of the Eyelids, the *Puncta Lachrymalia* are closed up and obstructed.

Thirdly, when the nasal Duct is either obstructed, or totally conglutinated; for when the *Saccus Lachrymalis* is so full, that no more can enter therein, it must necessarily happen, that the Humours continually discharged in large Quantities from the *Glandula Lachrymalis*, must run down the Checks. The nasal Duct is generally obstructed, when it is either filled with a thick, viscid, and glutinous Matter, or when just by the Nostriils it is affected with an Inflammation capable of conglutinating it.

Fourthly, the *Epiphora* may be produced by a Polypus, a Caruncle, or fleshy Excrescence of the Nose; for these Substances obstruct and compress the Ductus Lachrymalis Nasalis.

Fifthly, this Disorder may arise from a *Fistula Lachrymalis*.

Sixthly, from an Inversion of the Eyelids, or that Species of Disorder call'd **ECTROPIUM**, which see.

Seventhly, from an Erosion or Defect of the *Caruncula Lachrymalis*.

Eighthly and lastly, from a Wound of the lachrymal Ducts, and their Agglutination by a bad Cicatrice.

The Presence of this Disorder may be easily known, both from the Relation and Aspect of the Patient; but 'tis no such easy Task to find out its true and genuine Cause; which, however, is more readily discovered in some than in other Cases; for when it arises from a Defect of the *Caruncula Lachrymalis*, a Distortion of the Eyelids, an *Encanthis* in the greater Canthus, or a Polypus in the Nose, the Cause is immediately subjected to our Senses. But when the Disorder arises from a Conglutination of the *Puncta Lachrymalia*, the genuine Cause can scarce otherwise be investigated than by a careful Consideration of previous Injuries, such as Burning and Exulceration, together with an accurate Inspection of the *Puncta Lachrymalia* themselves. When the Disorder arises, either from the Obstruction or Conglutination of the nasal Duct, the *Puncta Lachrymalia* are open, and the Tears flow through them into the *Saccus Lachrymalis*; but because, in consequence of the Obstruction of the nasal Duct, they cannot be convey'd to the Nostriils, they stagnate in the *Saccus Lachrymalis*, and generally distend it like an Hernia; for which Reason, this Species of the Disorder is call'd *Hernia Lachrymalis*. And *Anel*, in his *Dissert. sur la nouvelle Decouverte de l'Hydropsie du Conduit Lachrymal*, Paris, 1716. calls it a Dropsy of the *Saccus Lachrymalis*. When the *Saccus Lachrymalis*, or the Part between the *Caruncula Lachrymalis* and the Nose, is press'd with the Finger, [See *Tab.* 37. *Fig.* 10. *Lett.* A.] it generally discharges an Humour, not, as it ought, into the Nostriils, but only through the *Puncta Lachrymalia* into the Eye itself; for the *Succus Lachrymalis*, in consequence of the Tears collected in it, often becomes so tumid as to appear externally; and when this Tumor is press'd with the Finger, and its Contents expressed, it either totally disappears, or, at least, is considerably lessen'd. If there is a *Fistula Lachrymalis*, it is discover'd when the *Saccus Lachrymalis* is compress'd by a purulent Matter flowing from the larger Canthus, or Angle of the Eye; whereas in an *Epiphora* an aqueous Liquid is only discharged.

The Prognostics, and Method of Cure, in this Disorder, are various, according to the different Causes from which it may possibly proceed; for if a Tumor of the larger Canthus, a Polypus of the Nose, a Distortion of the Eyelids, or a *Fistula Lachrymalis*, should produce an *Epiphora*, or weeping Eye, the Disorder cannot be removed, till its respective Causes are taken away. When the *Epiphora* arises from a Conglutination of the *Puncta Lachrymalia*, we ought carefully to examine, whether their Ducts *c c*, in *Fig.* 7. and 8. are totally conglutinated, or whether their Mouths, *b b*, are only closed up by a slender Cuticle; for when the Ducts of the *Puncta Lachrymalia* are totally conglutinated, either by some internal Cause, or Cicatrices form'd after Wounds or Burns of the lachrymal Ducts, there remain little or no Hopes of a Cure. But if a slender Cuticle should only block up the Ducts of the *Puncta Lachrymalia*, which sometimes happens, the most proper Method is cautiously to perforate that Cuticle with a Needle, and then

then to pass a Hog's-bristle, or a Piece of slender silver Wire, anointed with Oil of Eggs, into the Perforations. Various Wires for this Purpose are represented by *Fig. 11, 12, and 13. Tab. 37.* and these Measures must be persisted in, till the Mouths of the Perforations are so effectually indurated as to prevent a future Conglutination.

But if, in this Disorder, the Puncta Lachrymalia are found, and sufficiently pervious; the nasal Duct must necessarily be obstructed. And this Obstruction, when proceeding from a glutinous Matter, which, by long Continuance, is not preternaturally indurated, is very often capable of being removed. For this Purpose the Patient is frequently every Day to be laid upon his Back, and have resolvent Liquors dropt into the greater Canthus; then the Saccus Lachrymalis is carefully to be compress'd with the Fingers, lest the Humours, by remaining long in it, should contract a certain Acrimony, corrode the lachrymal Ducts, and gradually produce a Fistula Lachrymalis. Among the resolvent Medicines suited to this Intention, the most considerable are, Essence of Aloes, prepar'd with the Aqua Ophthalmica; Essence of the Gall of the Eel-pout, prepar'd nearly in the same manner; warm Infusions of the Herbs Hyssop and Paul's Betony; Mineral Waters, such as those of *Wiesbaden*, the *Caroline Springs*, those of *Emser*, the *Selteran*, the *Sedlitz*, and other Waters of a like Nature, or any ophthalmic Waters, to be frequently dropt warm into the Eye, with an Admixture of a small Portion of mineral Salt, obtain'd from the above-mention'd Waters. Besides these, 'tis expedient sometimes to draw up the Nostrials an Errhine, or mild Sternutatory, prepar'd of Marjoram, Lilies of the Valley, Marum, and other Herbs of a like Quality. Spirit of Hartshorn, or of Sal Ammoniac, may also be applied to the Nostrials. If all these Medicines should prove ineffectual, it will be expedient to use that new Method of Cure in a Fistula Lachrymalis, recommended by *Auel*, in which a certain slender silver Probe, like those represented in *Tab. 37. Fig. 11, 12, and 13.* is cautiously and dexterously passed to the Nostrials through the superior Punctum Lachrymale, the Saccus Lachrymalis, and the Lachrymal Duct of the Nose. But in performing this Operation, the Situation and Structure of the Lachrymal Ducts must be carefully adverted to, the Operator's Eye must be quick and discerning, his Hand steady, and well-accustomed to the nicest chirurgical Operations; otherwise he will hardly succeed in the Operation. This Method ought to be persisted in for some Days; and every Morning and Evening, after introducing the silver Probe or Wire now mentioned, a small Quantity of the above recommended Liquors, is, by means of the small Syringe, represented in *Tab. 37. Fig. 14.* to be injected into the inferior Punctum Lachrymale, in order to cleanse the Lachrymal Ducts, lest the Passage of the Tears to the Nostrials should again be obstructed. When this Species of Disorder continues long, it generally degenerates into a Fistula Lachrymalis, and is to be treated as such. When an *Epiphora* arises from a total Want of the Caruncula Lachrymalis, all Attempts of Relief are unsuccessful; because that Gland cannot be restor'd. *Heister, Chirurg.*

EPIPHYLLITIS. A Name for the *Opuntia, folio plano, glabro, scolopendria.* *Borhaave, Index alter.*

EPIPHYLLOSPERMOPHEROUS Plants, (of ἐπι, upon, εὔλλων, a Leaf, σπέρμα, Seed, and φέρω, to bear) are such as bear their Seeds on the Back of their Leaves; as do all capillary Plants.

EPIPHYSIS, ἐπιρύσις, from ἐπιρύω, to grow to, or upon. An Epiphysis, or Appendix; so called because it appears as a Part added to a Bone, and is still distinguished from it by the Intervention of another softer Substance, called a Cartilage, the Thickness of which diminishing with Age, it becomes, at last, almost insensible; so that what was an Epiphysis in a Child, has the Appearance of an Apophysis in a Person full grown; as we see in the Extremities of the Os Humeri, Bones of the Leg, and in other Parts.

Some Epiphyses have Apophyses belonging to them, as in the lower Extremity of the Tibia; and, on the contrary, there are Apophyses which have Epiphyses joined to them, as in the great Trochanter; and the Head of the Os Femoris is really an Epiphysis of that Part of the Bone which is termed its Neck. *Winslow. See APOPHYSIS.*

EPIPLASMA, ἐπιπλάσμα, in general, is the same as CATAPLASMA, which see; but is a Name, in particular, for an Application of wheaten Meal, boiled in Hydrekum, to Wounds. *Galen, de C. M. S. L. Lib. 3. Cap. 2. in principio.*

EPIPLEROSIS, ἐπιπλήρωσις, from ἐπλή, importing Addition, and πλήρωσις, Repletion. A Super-repletion. This Epiplerosis, as *Erasistratus* called it, happened, in his Opinion, in the Arteries, when, in their Dilatation, they were replenished with Spirit, emitted by the Heart, which was the Occasion of their Distention. *Galen, de Diff. Pulsuum, Lib. 4. Cap. 6. 27.*

EPIPLEXIS, ἐπιπληξις, from ἐπιπλήω, to reprove, rebuke; in *Lib. πειρᾶ δόχμη.* is a Faculty of rebuking with a

becoming Sharpness and Severity, which is a Talent required by *Hippocrates*, in a Physician; as fit to be exercised in case of tumultuous Noises, or Neglects of Duty in those who attend the Sick.

EPIPLOCE, ἐπιπλοκή, from ἐπιπλέω, to make a Mixture, or Contexture, is the same as Symploce, or COMPLEXIO, which see.

EPIPLOCELE, ἐπιπλοκήλη, from ἐπίπλοον, and κύλη, an Hernia, is an Hernia, in which the Omentum is fallen down. See *HERNIA*.

EPIPLOSCHEOCELE, ἐπιπλοσχοκήλη, from the Words in the preceding Article, and ὄσχεον, the Scrotum. An Hernia attended with a Descent of the Omentum into the Scrotum.

EPIPLOCOMISTES, ἐπιπλοκομιστής, from ἐπίπλοον, the Omentum, and κομίζομαι, to possess, or have; is an Epithet bestowed on Man, as having a very large Omentum, in comparison of Brutes; though *Vesalius* affirms the contrary, and understands the Word to mean a Person furnished with an extraordinary, and, in a manner, preternaturally big Omentum. Or, lastly, the Term may be applied to a Person labouring under an Epiplocele; as in *Galen, Adm. Anat. Lib. 6. Cap. 5.*

EPIPLOOMPHALON, ἐπιπλούμφαλον, from ἐπίπλοον, the Omentum, and ὄμφαλος, the Navel. An Hernia Umbilicalis, proceeding from the Omentum fallen out into the Region of the Umbilicus. *Galen, in Desinit.*

EPIPLOON, ἐπίπλοον, ἐπίπλων, from ἐπιπλέω (of ἐπι, upon, and πλέω) to sail upon, to float. The Omentum, or Cawl.

The Omentum is a large, thin, and fine membranous Bag, surrounded on all Sides by numerous Portions of Fat, which accompany, and even invest, the same Number of Arteries and Veins, adhering closely to each other.

The greatest Part of it resembles a kind of flat Purse, or a Sportsman's empty Pouch; and is spread, more or less, on all the small Intestines, from the Stomach to the lower Part of the Umbilical Region. Sometimes it goes down to the lower Part of the Hypogastrium, and sometimes does not reach beyond the Epigastric Region. It is commonly plated, or foliated, in several Places, especially between the Bands of Fat.

It is divided into a superior and inferior, an anterior and posterior, and a right and left Portion. The superior Portion is, in a manner, divided into two Borders, one of which is fixed along the great Curvature, or convex Side of the Arch of the Colon, and the other along the great Curvature of the Stomach. The Commissure, or Union, of these two Borders, on the Right Side, is fixed to the common Ligament, or Adhesion of the Duodenum and Colon, and to the contiguous Parts of these two Intestines. That on the Left Side is fixed to the longitudinal Fissure of the Spleen, to the Extremity of the Pancreas, and to the convex Side of the great Extremity of the Stomach: It is likewise fixed to the membranous Ligament, which sustains the Ductus Cholidochus, and connects it to the Vena Portæ Ventralis.

Below these Adhesions, the other Portions, that is, the anterior, posterior, two lateral, and inferior Portions, which last is the Bottom of the Saccus Epiploicus, have commonly no fixed Connexions, but lie loose between the Fore-side of the Cavity of the Abdomen and Intestines. The anterior and posterior Portions are generally called the Laminæ of the Omentum; but, as that Term is ordinarily employed to express the Duplication of some compound Membrane, it would be more convenient to call them Folia, Alæ, or some such Name.

The Membrane of the Omentum is, through its whole Extent, made up of two extremely thin Laminæ, joined by a cellular Substance, the Quantity of which is very considerable along the Blood-vessels, which it every-where accompanies in broad Bands, proportioned to the Branches and Ramifications of these Vessels. These cellular Bands are more or less filled with Fat, according to the Corpulency of the Subject; and, for that Reason, I have called them Bands, or Portions of Fat.

Besides this large membranous Bag, which I name the great Omentum, there is another, much smaller, which differs from the large one, not only in Size, but also in Figure, Situation, and Connexion; and this I name the little Omentum. This small Bag is fixed, by its whole Circumference, partly to the small Curvature of the Stomach, and partly to the concave Side of the Liver, before the Sinus of the Vena Portæ, so as to surround and contain the prominent Portion of the Lobule.

The little Omentum is thinner, and more transparent, than the other; and its Cavity diminishes gradually from the Circumference to the Bottom, which, in some Subjects, terminates in several small Cavities, or Possulæ, more or less pointed. Its Structure is pretty much the same with that of the great Omentum, it being composed of two Laminæ, with a Mixture of the same Portions of Fat, which are considerably finer than in the other.

We see, from this Situation of the two Omenta, that, in the Space left between the lower Side of the Stomach and upper Side of the Mesocolon, they have a very broad Communication with each other; so that if either of them contained, in its Cavity, any Fluid, that Fluid might readily get between the Stomach and Mesocolon, and so pass into the other Bag, especially when the Stomach is empty, and, consequently, its Situation easily changed.

Therefore, by means of this Interstice between the Stomach and Mesocolon, the two Omenta form one Cavity, which opens into the Cavity of the Abdomen by one common Orifice, situated near the Commissure, on the Right of the great Omentum. This Orifice is semilunar, or semicircular, and form'd by the Union of two membranous Ligaments, whereof one connects the Beginning of the Duodenum, and the Neck of the Gall-bladder, to the Liver; the other connects the contiguous Portion of the Colon to the same Part, and extends to the Pancreas. From thence arises an incurvated Border, which surrounds the Root of the Lobule, leaving an Opening wide enough to admit the End of the Finger.

To discover this Orifice of the Omentum, we need only raise a little the great Lobe of the Liver, and find out the Root of the Lobule, and apply to it a large Pipe, wrapt round with Cotton, Wool, or Tow, to hinder the Regress of the Air; then, if we blow gradually, the Air will inflate the Sides of the great Omentum, and give it the Appearance of a large Bladder, irregularly divided into several Lobes, or Tubercles, by the Bands of Fat, which appear, in this State, like so many Frena between the Lobes.

To be sure of succeeding in this Experiment, the two Omenta must be in their natural State, and they must be handled very gently, with the Fingers dipt in Oil. It succeeds better in young lean Subjects, than in old or fat Subjects.

When we touch the Membranes with dry Fingers, they stick to them so closely as hardly to be separated without being torn, as we see by the reticular Holes which appear in those Portions of the Membranes that have been thus handled. In that Case it will be to no Purpose to blow through the natural Orifice already mentioned; and it is owing to these small Holes, that the Membranes of the Omentum have been supposed to be naturally reticular.

The membranous Laminæ of the little Omentum are continuous partly with the external Membrane of the Liver, partly with that of the Stomach, and a little with the Membrane that lines the neighbouring Portion of the Diaphragm. Those of the great Omentum are continued partly with the same Coat of the Stomach, and partly with the external Covering of the Colon, and consequently with the Mesocolon; and they, likewise, communicate with the Covering of the Spleen.

We may satisfy ourselves concerning these Continuities, by making a small Hole in one of the Laminæ of the Omentum, near the Stomach, and Colon, and by blowing into that Hole, through a Pipe well fitted to it; for the Air will gradually insinuate itself under the common Coats of these Viscera: But, if the Parts be dry, they must be moistened a little before the Experiment is made.

The fatty Appendices of the Colon and Rectum have always appeared to me to be a kind of small Omenta, or Appendices Epiploicæ. They are situated at different Distances along the Intestines, being particular Elongations of their common or external Coat. They are of the same Structure with the great Omenta, and there is a cellular Substance contained in their Duplication, more or less filled with Fat, according as the Subject is fat or lean.

Next the Intestine, each of them forms a broad thin Basis, and they terminate by irregular Papillæ, thicker than their Bases. These Bases are at first disposed longitudinally, then obliquely, and, lastly, more or less transversely, especially near the Rectum, and upon that Intestine.

These Appendices are, for the most part, separated from each other; but some of these, which have longitudinal Bases, communicate together, the Vestiges of their Communications being very narrow, and not very prominent. By blowing through a small Hole made in one of the Appendices, it is inflated, like a small irregular Bladder; and the Air passes under the adjacent Coat of the Colon, or Rectum.

Besides these Appendices Epiploicæ, we observe, at different Distances, along the Colon, between the ligamentary Band, which lies hid, and one of the other two, that is, on both Sides of the Adhesion of the Mesocolon, several adipose Strata, which may likewise be looked upon as Appendices, of the same Nature with the former; but these Strata are very seldom observed between the two apparent ligamentary Bands of the Colon.

The Arteries and Veins of the great Omentum are Branches of the Gastricæ, and, for that Reason, go by the Name of Gastro-epiploicæ dextræ and sinistræ. The Arteries, on the Right Side, answer to the hepatic Artery; and those on the Left Side, to the splenic; and both communicate with

the Arteria Ventriculi Coronaria, and respectively with the Arteriæ Mesentericæ. The Gastro-epiploic Veins answer, in the same manner of Distribution, to the Vena Portæ.

The Vessels of the little Omentum come principally from the Coronariæ Ventriculi; and those of the Appendices and Strata are Ramifications from the reticular Texture of the Arteries and Veins of the Colon and Rectum. *Winflow's Anat.*

EPIPOLÆUS, ἐπιπόλαιος, from ἐπιπόλῃ, the Superficies, (of ἐπὶ, upon, or above, and πολέω, to act, or be concern'd) superficial, slight, gentle, is applied, by *Hippocrates*, to Wounds, Thirst, Fevers, which are mild, gentle, slight, and no way dangerous.

EPIPOLASIS, ἐπιπόλασις, in *Hippocrates, Lib. de Humoribus*, is a Redundance and Fluctuation, from ἐπιπολάζω, to be redundant; used *de Nat. human. 1 Epid. & Lib. 2. de Diet.*

Epipolasis, in Chymistry, is when what is sublimed ascends only to the Surface, and there settles. Essences are principally concerned in this Operation, when sublimed from the Centre to the Surface; though, sometimes, Repurgation is perform'd the same way. *Rulandus.*

EPIPOROMA, ἐπιπόρωμα, from πῶρος, a callous Concretion, is a Tophus, or tophaceous Callus, molesting the Joints. *Hippocrates, 2 Prorrhæ.*

EPIRRHOE, ἐπιρροή, from ἐπιρρέω, to flow into; is an Influx of Humours into any Part. *Hippocrates, 5 Aph. 23.*

EPISARCIDIUM, ἐπισαρκίδιον, from σὰρξ, the Flesh; is the same as ANASARCA.

EPISCHESES, ἐπίσχεσις, from ἵσχω, to stop, retain, is a Suppression of due Excretions. *Galen, Com. 2. in 3 Epid.*

EPISCHION, ἐπισχίον, from ἐπὶ, upon, and ἵσχιον, the Ischium; is the Pecten, or Os Pubis. *Castellus.*

EPISCOPALES VALVULÆ, the same as the Valvulæ Mitrales, are, particularly, two Valves in the pulmonary Vein, which prevent the Reflux of the Blood to the Heart. *Blancard.*

EPISEION, ἐπίσειον. The Pubes. *Hippocrates, Lib. 1. περὶ γυναικ.*

EPISEMASIA, ἐπισημασία, from ἐπισημαίνω, to indicate; is the same as ANNOTATIO, which see. The Verb ἐπισημαίνω, in *Hippocrates, de Morbo Sacro*, bears a very peculiar Sense, signifying to receive a Mark, or Characteristic, from the Paroxysm of an Epilepsy, as a Distortion of an Eye; whence such Patients are called ἐπίσημα παῖδια, "characterized Children;" and such as have no such Distinction, take the Appellation of ἀσημα, "uncharacterized." *Castellus.*

EPISION. The same as EPISEION. *Blancard.*

EPISPASMOS, ἐπισπασμός, from ἐπισπᾶω, to attract, in *Hippocrates*, according to *Galen, Com. in 6 Epid. Sect. 5. Aph. 30.* is the same as εἰσπνοή, "Inspiration;" or, as others will have it, a more quick and frequent Inspiration than is natural. What Kind of forbile Liquors *Hippocrates* means by his ἐπισπαστικά ποσάματα, *Lib. de R. V. I. A. Galen*, in his Comment, says, cannot be determined. But *Hor. Aug. Epist. & Confil. Med. T. 2.* takes them to be forbile Aliments, mix'd with Purgatives. In a particular Sense, *Epispasticum Medicamentum*, a dry Medicine, prepared for the Cure of malignant Ulcers by Insersion, and *Epispasticum Emplastrum*, in *Scribonius Largus, N. 216.* is a drawing Plaster, for extracting of Pus, or whatever else requires Extraction. *Castellus.*

EPISPASTICA, ἐπισπαστικά, from ἐπισπᾶω, to attract. Epispastic. See VESICATORIA and CANTHARIDES.

EPISPHERIA, ἐπισφαίρια, from σφαῖρα, a Sphere. The Turnings and Windings of the exterior Substance of the Brain. *Blancard.*

EPISTASIS, ἐπίστασις, from ἐπίσταναι, to restrain, repress; in many Places of *Hippocrates*, signifies the same as EPISCHESES, which see. But, *Lib. de Insom. and 7 Aph. 34.* it signifies the Substance swimming on the Superficies of the Urine; in Opposition to *Hypostasis*, the Sediment at the Bottom.

EPISTAXIS, ἐπιστάξις, from ἐπὶ, importing Addition, or Repetition, and στάω, to distil, is used by *Hippocrates*, to signify a repeated Distillation of Blood from the Nose; as, for Instance, on the critical Day, after a preceding Distillation on the indicatory Day, or EPIDELUS, which see.

EPISTOMION, ἐπιστόμιον, from στόμα, a Mouth. A Stopper. But it is used by some Chymists to signify the Mouth, or Vent-hole of a Furnace, called a Register.

EPISTROPHE, ἐπιστροφή, from ἐπιστρέφω, to invert or distort. It implies an Inversion, Distortion, or a Relapse.

EPISTROPHEUS, ἐπιστροφῆς, from ἐπιστρέφω, to turn, or be incurvated. The Name of the second Vertebra of the Neck. See SPINA.

EPISYNTHETICI, ἐπισυνθετικοί, from ἐπισυνθίστημι, to accumulate. Certain Physicians among the Antients, of which *Leonidas*, mentioned by *Carinus Aurelianus*, seems to have been the most celebrated. We know little, or nothing, of their System; but, by the Derivation of the Word, it should seem, that they were attached to no particular Sect; but either reconciled

ciled them all together, or else chose out of each what they most approved.

EPITASIS, ἐπίτασις, from ἐπιτείνωμαι, to be augmented, heightened, in *Hippocrates* signifies the Increase and Beginning of the Paroxysm of a Fever. *Lib. de R. V. I. A.* Ἐπίτασις, also, seems sometimes to signify the same as ἐπίστασις, “a Suppression;” as 2 *Prorrh.* But some Copies have ἐπίστασις, though *Galen*, after *Dioscorides*, reads ἐπίτασις.

EPITECNOS, ἐπιτεκνος, from ἐπὶ, to, or towards; and τέκνον, a Child, Offspring; signifies fruitful, or well-disposed towards the Office of Generation; and is spoken of both Sexes. 5 *Aph.* 62.

EPITEDEUMA, ἐπιτεδεύμα, from ἐπιτεδῆναι, fit, disposed; is the Way of living, or Course of Life, which any Person prescribes to himself; whether for sake of Profit, or Necessity; called by *Caelius Aurelianus*, *Vitæ Affectiones*; and by *Celsus*, *Vita propoſita*.

EPITEX, ἐπιτεξ, from ἐπὶ, towards, and τέξις, Birth. An *Ionic* Word, applied to a Woman, and importing her being near her Time of Delivery. *Hippocrates, de Mulierum Morbis, Lib. 1.*

EPITHEMA, ἐπίθημα, from ἐπιτίθημι, to lay upon, or apply. In *Hippocrates*, it signifies a Lid, or Cover; but later Authors use the Word to express a certain topical Medicine, of different Consistences, neither of the Nature of an Ointment, nor that of a Plaster, to be applied to the Surface of the Body, for various Purposes and Intentions. When this Species of Medicine is applied warm, it is called a Fomentation.

There are three Kinds of Epithems; first, the liquid; secondly, the dry, or solid; and, thirdly, those of the soft and poultice Kind. The two former retain the general Name of Epithem, and the latter is called Cataplasm, Poultice, or Malagma. See CATAPLASMA.

A liquid Epithem, called also, sometimes, a Fomentation, is a medicated Liquor, either simple or compound, applied either cold or hot, by the Intervention of a proper Vehicle, to the Surface of the Body; and calculated, either for inducing such a Change on it, or the subjacent Parts, as the Intention of the Physician shall require.

The Liquors for these Intentions may be Water, Milk, Wine, Vinegar, Spirit of Wine, liquid Juices, Oil, or Urine, either simple by themselves, or variously prepared, and mix'd either with each other, or with other officinal and extemporaneous Medicines, of whatever Consistence, such as distilled Waters of all Kinds, Vinegars, infused Oils, Decoctions, aromatic Spirits, Tinctures, Essences, saline Liquors, Lixiviums, Forge-water, Lime-water, and, especially, Infusions and Decoctions prepared from these and other proper Materials, expressed Juices, Emulsions, and Mixtures of various Kinds.

The Choice of the Physician, with respect to proper Materials, is to be directed by the Nature of the Part to be changed, or to which the Application is made, the malignant or benign Nature of the Symptoms, and the particular Quality of the Liquor to be used.

The same Cautions are to be used in the Management of these, as in that of such Forms for internal Use: Only, as in the former Case it is not necessary we should regard the Taste, the Smell, or the Colour of the Medicines; so, for this Reason, we are to omit the Sugars and Syrups used for correcting internal Remedies.

A pretty thick Consistence is no Disadvantage to liquid Epithems, though, at the same time, when a deep Penetration into the Part affected is required, those of a less thick Consistence are, when all other Circumstances are alike, to be preferred.

As a Change of the Part only, to which the Application is immediately made, is not always intended, but, sometimes, also, of the Viscera and Organs lying under it; so the Substances most proper for Applications of this Kind are those, whose Virtues consist in their volatile, highly fine, and penetrating Principles, especially when a Change of the internal Parts is intended: For this Reason, Substances of an earthy or stony Nature, Astringents, and Materials of an inspissating Nature, can possibly be of no Service for this Purpose; since, in consequence of their Thickness, they either cannot be absorbed, or, by bracing up the Mouths of the Pores, prevent their own Ingress. But, perhaps, better Effects may be produced by adding some penetrating Aromatic, or Spirit, to gentle Astringents.

It is also to be carefully considered, whether the Nature of the Part, to which the Application is immediately to be made, is such, as, without being injured, is capable of bearing the Liquor, whether Oil, Water, Spirits, or acrid Fluids; lest, whilst we do Service to one Part, we should injure or hurt another.

Such Substances as are rarely, or never, exhibited internally, are used for preparing Epithems of this Kind; such as the most acrid and mercurial Preparations, Preparations of Lead, Alcohol of Wine alone, Henbane, Mandrake, Nightshade, and

Hemlock. But, in the Use of these, and other drastic Materials, we are carefully to remember, that the whole Surface of the Body is of a bibulous Nature; and that the Substances it absorbs are conveyed into the Mass of Blood, without passing through the Stomach.

Their Quantity is not confined to Measure or Weight, but is to be determined by the Largeness of the Part to be cherish'd, and the greater or less absorbent Quality of the Substance, by whose Intervention the Liquor is applied. Woolen are preferable to Linen, and double, or threefold, to single Cloths, because they imbibe more Liquor.

As the general Quantity is seldom less than half a Pint, so it usually amounts to one, two, three, or more Pints, according as the Part to be cherish'd is small or large; according as there is only one, or more Parts to be so treated; according as the Vehicle is more or less bibulous; according as the Fomentation is to be continued for a longer or shorter time, or renewed at longer or shorter Intervals; or, according as the Liquor itself is more or less subject to Corruption, or prepared with Ease or Difficulty. It is more expedient rather to prepare too much, than too little; especially if more Parts than one, or those of the larger Kind, are to be fomented; lest the Liquor should fall short too soon, or immediately after the first Application.

The mutual Proportion of the Ingredients is to be determined by the various Intentions of the Physician, and the known Virtues of the respective Materials. However, so great Accuracy is not required in preparing Epithems for external, as Forms for internal Purposes; only we must have a due Regard to their Consistence, lest by their Thickness they should be rendered of a less penetrating Nature.

The Parts to be cherish'd by Epithems are either, first, external, and capable of having the Liquor immediately applied to them. With respect to these, as being directly subjected to our Senses, I shall only observe, that when there are Wounds or Ulcers in them, these ought previously to be covered with proper Medicines, lest the Epithem should by burning, or some other Circumstance, so far incommode them, as to prevent their Conglutination. Or, secondly, the Parts to be changed by Epithems are internal. For this Purpose, a proper external Region must be chosen for the Application, according to the Situation of the internal Part, and the various Intentions of the Physician. For this Reason, it is of the highest Importance accurately to know, and consider, the Situation and mutual Consent of the Parts, together with the Course and Direction of the Vessels. When the Epithem is intended to act immediately on the Part affected, either by corroborating, softening, moistening, refrigerating, resolving, or dissipating, the Matter impacted on it, the Application is most properly and commodiously made, where the Integuments are softest, and least thick. Where Revulsion or Derivation are intended, then the Epithem is to be applied either above or below the Part affected, according to its Situation, and its greater or less Consent with particular external Parts. When Epithems are intended to act upon the whole Mass of Blood, the most proper Places for their Application are those external Parts where the Vessels are largest, and least covered, such as the Temples, the Neck, the Arm-pits, the Wrists, the Groin and the Ham.

As for the Vehicles of liquid Epithems, these are very various, such as Linen or Woolen Cloths of various Colours, but especially red Silk, Stupes, toasted Bread, Crumb of Bread, Sponge, dry Epithems, or Bags: Sometimes the Liquor is, also, included in a large Hog's Bladder. The Vehicles of these Epithems are to be determined by the different Intentions of the Physicians, and Natures of the Parts affected, as also by the Ease and Quickness with which some are prepared in Comparison of others. When a large Quantity of Liquor is to be applied, and its Heat long preserved, Woolen Cloths, Stupes, and Sponges, answer the Intention best. A Bladder prevents the Dissipation of the Liquor, preserves its Heat, and does not stain the Part to which it is applied; but it only slowly transmits the more fine and subtile Particles: And from this Circumstance we are to form a Judgment of the Cases in which it may be properly used. When the Part to be cherish'd is tender, and when the Epithem is applied cold, or where there is no urgent Necessity for preserving the Heat, we may for a Vehicle use Linen Cloths, either double, triple, or more folded, in proportion to the Quantity of Liquor to be applied.

The Intention of the Physician, the Nature of the Part, and the Qualities of the Epithem, must concur to determine whether one of the cold or hot Kind ought to be applied. When the Intention is powerfully to resolve, penetrate, and attract, those of the hot Kind are most commodious and advantageous: But Heat is injurious to Parts constricted by intense Cold, as also spirituous and volatile Liquors; and those that are cold, or at least tepid, are to be us'd. The Coldness of the Liquor may, if 'tis thought proper, in some measure be taken off, by heating the Vehicle before 'tis soak'd with the Liquor.

The Epithem is to be secur'd by Bandage; but when a long Application of the Liquor, and Continuation of the Heat, are requir'd, 'tis proper to lay an Hog's Bladder, previously anointed with Oil, over it; and, over all, a Bag full of hot Sand, Bricks, or any other hot Body which retains the Heat long; and these, when become cold, are to be remov'd, and warm'd again; the Epithem, in the mean time, remaining on the Parts.

There is a very great Variety with respect to the Time they are to be left on the Part affected, how long their Use is to be continued, and the particular Seasons at which they are to be renew'd: Sometimes they are remov'd, when the Symptoms for the Removal of which they were applied, cease; when, for Instance, the Pain, the Watchings, the Cold, the Heat, the Uneasiness, the Vomiting, the Hæmorrhage, the Loss of Strength, the Delirium, or any other Symptoms, remit: At other times they are remov'd, when the Virtue and Energy of the Liquor is dissipated; when, for Instance, it is become cold, or the Vehicle is render'd dry: At other times, stated Periods are fix'd for their Removal, such as the Morning, the Evening, once or twice a Day, or every two or three Hours; but, in particular Cases, the Times may be easily regulated by a Physician, who duly considers his own Intention, the Genius of the Disease or Symptom, the volatile or fix'd Nature of the Liquor, the Matter of the Vehicle, and the Ease or Difficulty with which it is prepar'd.

Epithems of this Kind are of very universal Use, by affording Relief in acute and chronical, external and internal Disorders: They are beneficial both to the Solids and Fluids, either by their emollient, astringent, corroborating, repellent, attracting, heating, refrigerating, diluent, dissolvent, discutient, soothing, and exciting Qualities; or those by which they are proper for concealing Acrimony, and allaying Pain: They are also conducive both to the Production and Promoting of Evacuations almost of all Kinds: They are proper for Patients of all Ages, provided the Materials are chosen with Judgment, and the Application seasonably made. By Epithems, internal Medicines are sometimes excellently supply'd in Infants, and others who either abhor internal Medicines, or cannot swallow them; but to others, the Application and Renovation of them is more troublesome and uneasy, than the Use of Internals. Epithems sometimes prove hurtful, by being unskillfully us'd, since they remove the Symptoms, without destroying the Cause of the Disorder: But this principally holds true with respect to stupefying Epithems, or in Cases where Repellents, when the Matter of the Disease is not sufficiently moveable, by constricting the Vessels, render it more compact; or when Epithems, which were requir'd hot, are, by their long Application, become cold. But as these Disadvantages only attend the Abuse of Epithems, they may be avoided by the Skillful and the Cautious.

A dry Epithem is a medicated Powder, for the most part sew'd up in a Cloth, and apply'd to the Surface of the Body, with various Intentions, for changing both internal and external Parts: It is call'd *Sacculus*, *Saccus*, *Cucupha*, *Cucullus*, *Frontale*, *Sutium*, *Lettulus*, and *Pulvinar*; according to the various Parts and Uses to which it is apply'd.

The Powders us'd for this Purpose are generally gross, or but moderately fine, because the Adhesion of their Particles, or their falling thro' the Cloth in which they are included, is not intended.

The Materials of these are Powders in general, and whatever else of a like Nature is judg'd proper for external Use: The Choice of these Materials is to be determin'd by the Intention pursu'd, and the Relation betwixt that Intention and the Ingredients us'd. However, the drier Parts of Animals, Roots, Barks, Leaves, Flowers, Seeds, Berries, Aromatics, indurated Juices, and the officinal Species compounded of these, are most generally us'd for this Purpose.

When in these a penetrating Quality is requir'd, 'tis often customary, not only for the sake of Consistence, but also of Efficacy, to add liquid Epithems, that by their means the dry Materials may not only be render'd more active, but also prove a Vehicle to the other.

In preparing those Species of dry Epithems, call'd *Lettuli*, or Couches, and *Pulvinaria*, or Cushions, Chaff is usually mix'd with the medicated Powder, in order to disperse it the better: But in preparing *Cucuphas*, or other Bags of a like Nature, which are requir'd soft, and not much moisten'd, 'tis sometimes better to use Cotton, or the Wool of some Animal.

To this Class also belong Bags fill'd with Sand, when us'd either alone, or with a liquid Epithem, in Cases where a long-continual Heat, either of the dry or moist Kind, is requir'd.

The Quantity of the Materials is to be limited by the Largeness of the Bag to be fill'd, which is again to be proportion'd to the Surface of the Part to be cherish'd: Hence both are very various. That Part of the Head which is cover'd with Hairs, the Stomach, and the Liver, generally require two,

three, or four Ounces; the Heart, the Spleen, and Kidneys, one or two Ounces; and the other Parts, a Quantity proportion'd to their respective Bulks. Couches, or Cushions, to lie or sit upon, require a considerable Number of Pounds.

The various Ages of Patients, and the different States and Conditions of the Parts affected, require Materials and Management of widely different Natures.

The Bags must not be too hard stuff'd, but only fill'd in a loose and spongy Manner, that they may be sufficiently pliant and soft.

The general Quantity of the Materials is to be determin'd from the Largeness and Number of the Bags to be fill'd; for frequently a considerable Number are prescrib'd, either to be apply'd to different Parts all at once, or to the same Parts successively and alternately.

The mutual Proportion of the Ingredients is, as in other Epithems, to be determin'd by the Intention of the Physician, and the Qualities of the several Substances.

The Powders, employ'd for these Purposes, are sometimes prepar'd by cutting down, but more generally by a coarse and gross Trituration; after which they are to be carefully mix'd: Sometimes some only, or all of the Ingredients, are order'd to be roasted in a Frying-pan, that their Virtues may be either augmented, or their Qualities chang'd; but in volatile Substances this Practice is hurtful. At other times the Materials are, before they are put into the Bag, sprinkled with efficacious and aromatic Liquors, Spirits, Oils, and Tinctures.

The Bags for these Epithems are, for the most part, made of coarse Linen Cloth, pretty much wore, as also of fine Linen, or Silk, but rarely of Woolen Cloth. We are to be directed in our Choice of the Cloth for this Purpose, by the Nature of the Part to be cherish'd, the Quantity of the Powder, its Quality, the greater or less Stress the Bag is to bear in the Application, the Price of the Cloth, and the Inclination of the Patient. The Figure of the Bag is to be accommodated to the Part it is to be apply'd to, and the Intentions propos'd: For the Head 'tis commonly made in the Form of an Hood; for the Forehead, of an oblong square Figure; for the Heart, pyramidal; for the Stomach, in the Form of a Shield; for the Liver, in the Form of a Crescent; for the Spleen, in the Form of an Ox's Tongue; and for the Navel, round: Couches and Cushions are to be made so large as to answer the End, but retain the usual Form and Shape: Sometimes their Breadth and Length, corresponding to the Part to be cover'd, are confin'd to a particular Number of Inches; at other times the Part to be cherish'd is only mention'd, and the rest left to the Skill and Judgment of the Apothecary: The Number also, when more than one are to be made, is to be specify'd.

Before the Bag is fill'd, the Powder is to be mix'd with Chaff, Cotton, or Wool; and the Materials thus prepar'd are, for the most part, sew'd up in the Bag: But sometimes 'tis sufficient only to tie or fold them up, when an exact Figure, or long Application, are not requir'd: Large Bags are sew'd in such a manner, as comes near to what we call Quilting, lest the included Powder should be form'd into Concretions, or unequally collected to one Part.

Epithems of this Kind are apply'd either, first, by themselves, dry, and, for the most part, previously warm'd; or, secondly, previously impregnated with the medicinal Virtues of other Substances, in order to render them more efficacious; for this Reason they are often, before their Application, moisten'd, macerated, sprinkled, or boil'd with a liquid Epithem: At other times they are impregnated by the Steam of some proper Decoction, or the Smoke of a kindled Fumigation: Or, thirdly, they are us'd over the Applications of liquid Epithems, in order to preserve their Heat, or increase their Virtues.

Their Use is the same with that of liquid Epithems, only their penetrating Quality is less, and their Operation slower, without the Addition of one of the liquid Kind: There are, however, some Cases, in which a dry Heat is at once more beneficial, and more easily born. To this Class of Medicines, also, belong Epithems of live Whelps, Pigeons, and Chickens, laid open; the Omentum, and other Parts of Animals, as yet possess'd of the vital Heat; Bread, as yet warm from the Oven; and some others of a like Nature, which may be either apply'd alone, or in Conjunction with other Substances, which are judg'd more efficacious. *Gaubius, de Formulæ Medicamentorum.*

EPITHESIS, ἐπίθεσις. Of the same Derivation as **EPITHIRMA**. In Surgery it imports the Rectification of crooked Limbs, by means of Instruments or Machines. *Cassellus.*

EPITHYMBRUM. A Species of Moss, which grows on the *Thymbra*, Winter Savory.

EPITHYMUM. See **CUSCUTA**.

EPITOCOS, ἐπιτοκος. from *τίωμι*, to bring forth; in *Hippocrates*, signifies with Child. *Epidem. L. 6.*

E P U

EPOCHE, ἐποχή. The same as **EPISCHEISIS**, in Medicine.

EPOCHETEUSIS, ἐποχέτωσις from ἐποχέω, to be derived or diverted into some new Canal or Duct. Derivation of the Blood, or Juices, from one Part to another.

EPOCHION, ἐπὶ χῆν. A Tendril of a Plant. *Galen.*

Exec.

EPODE, or **EPODOS**, ἐπὸδός, or ἐπωδός from ἐπὶ, on, or over, and ὁδός, a Song. The Method of curing Distempers by Incantations. *Galen*, in the last Chapter of his *Work de Usu Partium*, has this remarkable Passage relative to *Epodæ*.

“ This last Book, he says, which is the seventeenth of my
“ *Work de Usu Partium*, like a good *Epodæ*, explains the
“ Uses and Advantages of the Whole. When I say *Epodæ*,
“ I would not be thought to mean one who uses *Epodæ* (In-
“ cantations); but as our lyric Poets make the Action of the
“ Chorus to consist in the *Strophe*, and *Antistrophe*, and in a
“ third Part, which is the *Epodos*, wherein they stand before
“ the Altars, and sing an Hymn in Honour and Praise of the
“ Gods, I was determin’d, that as this Book agrees in Office
“ with the Part of the Chorus now mentioned, it should bear
“ the same Title, and be called the *Epodæ*.”

EPOMIS, ἐπomis from ἐπὶ, upon; and ὤμος, the Shoulders. That Part of the Body, which lies betwixt the Articulation of the Humerus with the Scapula and the Neck.

EPOMPHALION, ἐπομφάλιον from ἐπὶ, upon, and ὀμφαλός, the Navel. A Medicine which purges, by being apply’d to the Region of the Navel.

EPOPS, ἐπόψ. The Bird call’d **UPUPA**; which see. *Cassellus.*

EPOS, ἔπος. *Hippocrates*, in his *Treatise de internis Affect.* uses this Word to express a steep Place.

EPOSILINGA. Scales of Iron. *Rulandus.*

EPULIS, ἐπulis from ἐπὶ, upon, and ὕς, the Gums.

A Species of Tubercles growing on the Gums, of which there are two Kinds; for some are entirely without Pain, whilst others afflict the Patient in a most terrible manner, because they are of a malignant Nature, and gradually degenerate into a Cancer. Tubercles of this Kind are also in some measure distinguish’d from each other, by their different Bulks and Conditions; since some are as big as a large Nut, and others no bigger than a small one; some hard, others soft; some have a slender, and others a larger and broader Root: When these Tubercles are of the large Kind, they not only distend and deform the Jaws, but also prove a considerable Obstruction to Mastication and Speech; for which Reason, they require a speedy and expeditious Cure: Now no Method of Cure is more expeditious, than a total Extirpation of these Caruncles, as is usual in other Tubercles of a like Nature: When, therefore, the Roots are small, a Thread is carefully to be pass’d about them, with which they are to be tied pretty tight: But when the inferior Part of the Tubercle is pretty large, the Use of some gently corrosive Medicine is proper; and this Intention is excellently answer’d, by Oil of Tartar *per Deliquium*, or a Solution of Sal Ammoniac. But in Cases of this Nature we are absolutely to abstain from the more drastic and poisonous Corrosives, since, for the most part, they not only excite violent Inflammations and Exulcerations of the Mouth, but may also produce the Death of the Patient, if they should happen to be unfortunately swallow’d: For this Reason, in Cases where the milder Corrosives are not sufficient, ’tis more expedient and safe to seek the means of Relief from the Knife, whilst these Caruncles, being laid hold of by a Pair of Forceps, or a small Hook, are to be extirpated and cut out, either by the Knife, or a Pair of Scissars: But this is to be done cautiously, lest, by cutting out the whole Substance of the Gum at the same time, a Caries should be excited in the denudated Bones of the Jaw. The Discharge of the Blood is to be permitted for some time; but if it should continue too long, in order to stop it the more easily, and cleanse the Blood out of the Mouth, ’tis highly proper to make the Patient often wash his Mouth with warm Wine, especially of the red and astringent Kind, or with Oxycrate, mix’d with a little Alum, till he has spit out all the Blood: When the Discharge of the Blood is stop’d, the Wound is to be daily anointed, till heal’d, with Oil of Myrrh *per Deliquium*, or Essence of Myrrh mix’d with Honey of Roses. If any Part of the Tubercle should remain, or if it should begin to appear afresh, it is with all Expedition to be consum’d by the Corrosives already mentioned, or by blue Vitriol, or any other corrosive Medicine; or it may be again extirpated by means of the Scissars or Knife. The actual Cautey is by some recommended in Cases of this Nature, and Instances of Cures happily perform’d by it alledg’d; but ’tis not only incommodious to apply, but also excites intolerable Pain; ’tis however to be us’d, when the Tubercle cannot be repess’d by other means. *Meckren*, in his twenty-eighth Observation, gives us a singular Instance of a Cure of this Disorder, together with the Description of a Knife, accommodated to this Purpose. *Scultetus*, in his thirty-fifth Observation informs us, that by means of a Forceps us’d in eradicating Polypuses, he happily extirpated a Caruncle of

E Q U

this Kind, adhering to the Gum of the anterior Teeth, hard by the Palate. Some Years ago, I myself, says *Heister*, saw such a Caruncle in the Palate of a Monk, behind the *Dentes Incisores*; but because his Misfortune was complicated with a Spina Ventosa in the Bones of the Palate, and because he would not submit to the Use of the actual Cautey, the Caruncle could not be totally remov’d; but the Patient, gradually losing his Strength, at last died. *Heister. Chirurg.*

EPULOTICA, ἐπυλωτική, from ἔλδ, a Cicatrix. Topical Medicines, which apply’d to Wounds, or Ulcers, dry up the superfluous Humidity, repress fungous Flesh, and dispose them to cicatrize.

EQUICERVUS. The Elk. See **ALCE**.

EQUISETUM.

The Characters are;

The Root is very creeping: The Leaves are round, hollow, and articulated by a pyxidated Insertion, or after the manner of Boxes, a leaf within a greater: The Flower has no Petals, is stameneous, or thready, has a fungiform or mushroom-like Head, and is Male in one Plant: The Fruit consists of black, rough Grains, growing close together on the Plant, which bears no Flowers.

Boerhaave mentions ten Species of this Plant; which are,
1. *Equisetum*; palustre; longioribus setis, *C. B. 15. Tourn. Inst. 533. Boerb. Ind. A. 2. 106. Dill. Cat. 55. Cauda Equina*, & *Equisetum majus*, *Offic. Equisetum majus*, *Ger. 935. Emac. 1113. Raii Hist. 1. 128. Synop. 42. Equisetum majus palustre*, *Park. 1200. Equisetum majus aquaticum*, *J. B. 3. 729. Chab. 551. Hist. Oxon. 3. 621. GREAT MARSH HORSETAIL.*

The great Horsetail has many hollow, whitish-green, smooth, and neatly chanel’d round Stalks, having many Joints at some Distance one from another, the uppermost being always set-in or articulated into that next under it: They grow to be a Foot and half, or two Foot high, taper, and scarce a Foot thick: They are surrounded at every Joint, with a great Number of long, very slender, rough Leaves, which, like the Stalks, are jointed one within another, and stand so thick, that the whole Stalk appears like an Horse’s Tail: Early in the Spring, before the Stalks come up, there arise from the Root several short Stalks, without Leaves, but jointed as the others, having at their Tops a brownish round Head like the Top of an Asparagus, in which lies the Seed: The Root is long and slender, full of Joints, and spreading much. It grows in Ditches and marshy Grounds.

Horsetail is restraining, drying, and binding; good to stop Bleeding in Wounds, and all Hæmorrhages in any Part of the Body, redundant Catamenia, and the Fluor Albus, for Ulcerations in the Kidneys or Bladder, and is useful in all Kinds of Ruptures. *Miller’s Bot. Off.*

Horsetail has an herby, saltish Taste; it is deterfive, and gives hardly any Tincture of Red to blue Paper: Its Salt seems to resemble that of Coral; but it is mixed with a little Sal Ammoniac and Sulphur: By the chymical Analysis, it affords several acid Liquors, a little Oil, a great deal of Earth, no concreted volatile Salt, but a little urinous Spirit: Its fixed Salt does not easily dissolve in the Air, neither does it give an orange Colour to the Solution of corrosive Sublimate.

All Authors agree, that the Horsetail is very vulnerary and astringent: Its Decoction is prescribed for Spitting of Blood, the immoderate Flux of the Piles, Menfes, and all Sorts of Hæmorrhages. *Tabernæmontanus* prescribes a Dram of the Powder of the Root for Spitting of Blood: He mix’d the Powder of the whole Plant in the Food of consumptive Persons; and gave two or three Ounces of its Juice, to those that had the Dysentery. *Tragus* prescribed this Juice to those that made bloody Urine, or had Ruptures: The same Juice is very good for Wounds and Ulcers. *Martyn’s Tournefort.*

Frederic Hoffman recommends a Decoction, or Infusion, by way of Tea, made of this Plant, as excellent in the Stone; and *Fuller* gives a Decoction thereof, intended against Ulcers of the Bladder.

2. *Equisetum*; palustre; brevioribus setis. *C. B. P. 15.*
3. *Equisetum*; palustre; brevioribus foliis; polyspermum, *C. B. P. 15. Hist. Oxon. 3. 621. Raii Hist. 1. 129. Synop. 42. Boerb. Ind. A. 2. 107. Polygonum fœmina*, *Offic. Equiseti facie Polygonum fœmina*, *J. B. 3. 732. Chab. 552. Cauda Equina fœmina*, *Ger. 957. Emac. 1114. Equisetum alterum brevioribus setis*, *Park. 1201. Pinastella Ruppia*, *Buxb. 261. Pinastella surrector*, *Rupp. Flor. Jen. 275. FEMALE HORSETAIL.*

It grows in Pools and Lakes, and by the Banks of Rivers: The Herb is in Use, and accounted a Vulnerary. *Dale.*

4. *Equisetum*; palustre; tenuissimis, & longissimis, setis. *C. B. P. 16. Prodr. 24. 3. J. B. 3. 729.*
5. *Equisetum*; sylvaticum; tenuissimis setis, *C. B. P. 16.*
6. *Equisetum*; pratense; longissimis setis. *C. B. P. 16. Hippuris, frontalis*, *Lob. Obs. 461.*

This is found betwixt *Wandsworth* and *Wimbleton*, in the Mid-way in the Meadows.

7. *Equisetum*;

7. *Equisetum*; arvense; longioribus setis. *C.B. P.* 16. *Park.* 1202. *Rail Hist.* 1. 128. *Synop.* 42. *Hist. Oxon.* 3. 621. *Tourn. Inst.* 533. *Dill. Cat.* 38. *Boerb. Ind. A.* 2. 107. *Cauda Equina minor* & *Equisetum minus*. *Offic. Equisetum segetale*. *Ger.* 956. *Emac.* 1114. *Equisetum minus terrestre*. *J. B.* 3. 730. *Elem. Bot.* 424. *Equisetum minus terrestre sive arvense*. *Chab.* 351. CORN HORSE-TAIL. *Dale*, p. 62.

It bears its Flowers, or Asparagi, separate from the Stalks, which bear the Leaves. They appear in April and May.

This Species of *Equisetum* is a potent Astringent: Whence a Dram of the Herb pulverized, and drank in Wine or Water, or four Ounces of the Decoction, in Wine, taken Morning and Evening, or three Spoonfuls of the distilled Water, taken for two or three Days together, are a noble and effectual Remedy for vomiting of Blood, and for Fluxes of the Uterus; especially the red Flux, and for the Dysentery, and other Fluxes of the Belly. It also cures Hemorrhages, whether they proceed from an *Anastomosis*, or a *Dieresis*, and Exulcerations of the Kidneys and Bladder.

The Inhabitants of *Tuscany*, as *Matthiolus* informs us, eat the young Sprouts, sometimes for want of better Food, and sometimes for the Dysentery, and other Fluxes of the Belly; and sometimes find themselves so much bound by them, as to be affected with the Colic. The Herb, used in a Plaister, conglutinates the largest Wounds; and even those where the Nerves are divided. *Dioscorides* says it provokes Urine. For Spitting of Blood, exhibit a Dram of the Root dry'd and powder'd, with the Juice of four Pomegranates. For Ulcers of the Breast and Lungs, drink three Ounces of the Decoction, Morning and Evening, warm, or two Ounces of the Juice. *Casp. Hoffman* assures us, that he and others had done surprising Cures with it in long, and even malignant Fevers. A Dram of the Powder taken in three Ounces of Plantain-water, Morning and Evening for some Days together, is recommended for the Phthisis. *Rail Hist. Plant.*

8. *Equisetum*; foliis nudum; non ramosum; five Junceum; *C.B. P.* 16. *M. II.* 3. 621. NAKED HORSE-TAIL.

This bears its Flowers at the Extremities of the Stalks, which are channeled.

This is used by Artificers to polish; whence it is called *Shave grass*. It is not common in *England*. Mr. Ray mentions it to grow at *Middleton* in *Warwickshire*, and *Broadyitch* Abbey in *Wiltshire*. *Martyn's Tournefort*.

9. *Equisetum*; foliis nudum; ramosum. *C.B. P.* 16. *M. II.* 3. 621. BRANCHED NAKED HORSE-TAIL.

It flowers in May, and bears its Flowers at the Extremities of the Stalks, which are very smooth, and not at all channeled. *Martyn's Tournefort*.

10. *Equisetum*; scetidum; sub aqua repens. *C.B. P.* 16. *Præd.* 25. 5. *M. II.* 3. 621. Common in standing Waters. *Boerb. Ind. alt. Plant. Vol. 2.* p. 106.

EQUITATIO. Riding. In Medicine consider'd as an Exercise. See the Article *FIBRA*. See also *Fulcr's Medicina Gymnastica*.

EQUUS. *Offic. Schrod.* 5. 285. *Aldrov. de Quad.* 12. *Mer. Pin.* 106. *Gefn. de Quad.* 403. *Jouf. de Quad.* 1. *Scha. Quad.* 89. *Rail Synop. A.* 62. THE HORSE.

The Parts used in Medicine are the Blood, Rennet, Milk, Dung, Wart [*Lichen*], Testicles, Fat, Hoofs, Hairs, Saliva, Teeth, the Stone found in the Stomach or Intestines, which, for its Figure and Structure, consisting of Laminæ, is not unlike the *West-Indian* Bezoar.

The Blood is mixed with Canthars and Septics: The Rennet, called *Hippas*, is particularly serviceable in the *Cœliac* Passion, and the Dysentery. The Milk is thought to be good in the Epilepsy, Phthisis, Cough, and Asthma. The Dung, used externally, stops Hemorrhages, and expels the dead Child and Secundines; internally, it is exhibited in the Colic, Strangulation of the Uterus, Pleuritis, and, also, for the Expulsion of the dead Child and After-birth; where that of a Stone-horse is most effectual. The Warts are particularly recommended in Hysterics, and for the Stone and Epilepsy. The Testicles are a present Remedy for expelling the Secundines, and are recommended in Colics. The Fat is used to good Purpose in anointing Luxations, and the Hairs repress an Hemorrhage; the Saliva, or Spume of the Mouth, drank for three Days, cures a Cough, and mitigates the violent Heat of the Fauces. The Teeth, when they first begin to appear, are said to facilitate Dentition in Infants. The Stone, called the *Hippolithus*, is supposed to be endued with the same Virtues as the *West-Indian* Bezoar. *Dale* from *Schroder*.

The Dung of a Stone-horse seems to be a popular Remedy; but I can say very little of its Virtues from my own Experience. *Quincy* gives the following Account of it:

It seems to owe its present Credit in Medicine to the modern Practice. It is certainly of great Efficacy in Pleuritis, Inflammations, and Obstructions of the Breast: In Astmas, and Difficulty of Breathing, also, it sometimes prevails, where the most powerful Balsamics and Pectorals have been tried in

vain; in all these Intentions it is now very much prescribed. It is best in Decoction, wherein it is sometimes join'd with other Pectorals, more or less warm and deterfive, as the Case and Constitution seem to direct. The simple Waters of Pen-y-royal, or Hyssop, are as good as most Liquors to infuse it in. It ought to have but a gentle Heat, and to be kept close stop'd. White-wine seems best to take off its Nauseousness, but may not be so agreeable, in some Circumstances, as softer or more oily Vehicles. But whatsoever it is infused in, I never observ'd it the less effectual for Clarification; and that will bring the Liquor to look fine, and be less nauseous, tho' it will not destroy its natural Smell, but that the Patient may still discern it.

EQUI *Clibanus*, in Chymistry, is the Heat of Horse-dung.

ERADICATIVUS. An Epithet for strong and drastic Cathartics, us'd by *Fallopian*.

ERAGROSTIS, ἐράγρωσις. A Name for the *Gramen*; paniculis elegantissimis. *Boerb. Index alter.* See PHALARIS.

FRANTHEMUS. A Name for the *ADONIS FLOS*, Pheasant's Eye. See ADONIS.

ERASISTRATUS. The Name of a celebrated Physician among the Antients; for an Account of whom see the Preface.

ERAWAY. A Name for the *Ricinus Vulgaris minor*.

EREBINTHUS. A Name for the *CICER*.

ERECTORES *Penis*. The Name of two Muscles belonging to the Penis, which serve to erect it when they act. See GENERATIO.

EREGMOS, ἐρεγμος, from ἐρύγνυμι, to break, properly signifies a Bean decorticated, and broken into small Particles; and is the same with respect to the Bean, as *Pisum* to the Grain of Barley, or *Alica* to Zea. But sometimes it signifies other leguminous Fruits decorticated and broken in like manner. *Eregmos* also signifies, according to *Foefius*, Bean-meal; but this is deny'd by *Gorraeus*. In *Erotian*, and *Galen's* Exegesis, *Eregmos* is expounded a Bean divided into two Parts; it is otherwise written ἐρεγμα, *Eregma*, and ἐριγμα, *Erigma*.

EREISMA, ἐρεισμα, from ἐρείδω, to lean against, signifies, in *Hippocrates*, a Stay or Support, with respect to Bandages; or an Impression or Illusion, with regard to Things apply'd forcibly to the Body. *Lib. de Fract.*

ERETHISMOS, ἐρεθισμός, from ἐρεθίζω, to excite, irritate. Any thing which irritates. "Under the Term ἐρεθισμός," says *Galen*, *Com. 2. in Lib. de R. V. I. A.* he (*Hippocrates*) "comprehends whatever reduces the Faculty (δύναμιν) to an infirm State; among which may be reckon'd acrimonious and pungent Humours in the Intestines or Stomach, particularly in the Mouth of the Stomach; also want of Sleep, Anger, Sorrow, Worms ascending from the Intestines to the Stomach, and nocturnal Itchings of the whole Skin, or some Parts of it, which not only by their Irritation, but by Prevention of Sleep, exhaust the Strength." So *Hippocrates*, in the same Book, by σημεῖον ἐρεθισμῶν, intends to signify whatever solicits and exhausts the Strength of Nature; and again, in the same Book, among the Causes of Imbecillity, he reckons ἀλλοτρία ἐρεθισμῶν, "some other Irritant;" which *Galen* expounds by some biting Pain of the Belly or Intestines, want of Sleep, or some Affection of the Mouth of the Stomach. *Ερεθισμός*, in particular, signifies an Irritation of the Belly, from thin and acrimonious Humours discharging themselves in liquid Stools; as in 1 *Epid. Aigr.* 2. and *Aigr.* 12. In general, whatever is an Obstacle to Nature, or retards its Motion towards a Crisis, whether it be Aliment, Medicine, Phlebotomy, topical Remedies, or any other Affection of the Mind or Body, may be termed an *Erethismus*. *Aretæus, curat. acut. Morb. Lib. 1. Cap. 1.* for ἐρεθισμός uses ἐρεθισμός, in the same Sense. *Οἱ κατὰ τὰς οὐχὰς ἐρεθισμοί*, *Coac.* 264. are Irritations or Vellications of the Fauces, from a Deflux of acrimonious Humours, which excite Tumors of the Glands of the Ears.

ERETRIA TERRA.

Terra Eretria. *Offic. Matth.* 1392. *Terra Eretria cinerea ultramarina*, qua Medici utuntur. *Kentm.* 1. ERETRIAN EARTH.

There are two Sorts of *Terra Eretria*; the one white, the other ash-colour'd. What is most esteem'd, approaches to an Ash-colour, and is very soft, and drawn over Copper-plates, leaves a Line of a Violet-colour.

According to *Dioscorides*, it has an astringent and refrigerating, with somewhat of a mollifying Virtue; incarnates, and conglutinates recent Wounds. *Dale*.

ERETRIS, ERETRIAS TERRA, ἐρετρίς ἢ ἐρετρίδα γῆ, the same as the preceding. *Hippocrates, Lib. 3. de Morbis*, directs rubbing of it on the Breast, in order to discover in what Part thereof Pus lies concealed. See EMPYEMA.

EREUMENA URA, ἐρευμανα ὑρα ὡς ποταμοὶ ἐν μέτρῳ, in *Coac.* 532. according to *Foefius*, are "Urines assuming a cloudy Consistence in the Middle;" where *Foefius* expounds ἐρευμανα by μελαμυκάρη, assuming, because ἐρευμανον, in *Hesiod*, is thus expounded by *Varinus*.

EREUXIS, ERYGE, EREUGMOS, ἐρευξίς, ἐρυγι, ἐρεγμός, from ἐρύγω, to belch; Eructation, or an Excretion of Flatulences by the Mouth.

ERGALIA,

ERGALIA, in *Libavius, Alchym. Lib. 1. Cap. 2. & 3.* is the Part of Alchemy, explaining the Instruments thereof. *Gastellus from Libavius.*

ERGASIMA. A Name for the worst Sort of Myrrh. *Dioscorides, Lib. 1. Cap. 77.*

ERGASTERIUM, ἐργαστήριον, from ἐργάζομαι, of ἔργον, a Work, or Operation, is the same as *Laboratorium*, a Laboratory. *Ergasterion*, in particular, signifies, also, that Part of the Furnace in which the Copel, Alembic, Retort, or other Instrument, containing the Matter to be acted upon, is reposit.

ERGATA. The Name of a Piece of Machinery, which concurs in the Constitution of the Female Screw. *Oribas. de Machinament.*

ERGON, ἔργον, Work, Action, or Function. In *Hippocrates*, it frequently implies somewhat of Difficulty.

ERICA.

The Characters are ;

The Leaves are small and evergreen ; the Flower monopetalous, Bell-shaped, naked, and often shap'd like a Pitcher. The Ovary in the Bottom of the Flower becomes a roundish Fruit, gaping in four Places, divided into four Cells full of small Seeds, and cover'd with the lower Part of the Flower, as with a Calyx.

Boerhaave mentions eight Species of this Plant ; which are,
1. *Erica, vulgaris glabra. C. B. Pin. 485. Dill. Cat. Giff. 171. Buxb. 104. Tourn. Inst. 602. Elem. Bot. 475. Boerb. Ind. A. 1. 221. Erica Offic. Ind. Med. 48. Mont. Ind. 42. Erica vulgaris, Park. Theat. 1480. Raii Hist. 2. 1713. Synop. 3. 470. Merc. Bot. 1. 33. Phyt. Brit. 38. Erica vulgaris seu pumila, Ger. 1196. Emac. 1380. Mer. Pin. 36. Erica vulgaris flore purpureo & albo, Rupp. Flor. Jen. 71. Erica vulgaris humilis, semper virens, flore purpureo & albo. J. B. 1. 354. Erica, vel Erica, Chab. 75. Erica folio Myricæ vulgaris glabra, Jons. Dendr. 449. COMMON HEATH. Dale, p. 334.*

Matthioli's Figure of this Plant is better than those of any other Authors. *Clusius* and *J. Bauhine* took the Flower to be tetrapetalous, whereas it is monopetalous ; but the Empalement of this Species is often mistaken for the Flower.

The Flower of this Plant is of a very singular Structure. It is a little Bell prolonged and double. The outer one, which is the longest, is formed by four Petals, encompassing the other, which seems to be monopetalous, open only at the fore Part, and cut into four equal Segments. The Cavity of this inner one is filled with eight Chives, disposed round a Pointal, which does not exceed the Thickness of a middling Pin's Head, and is raised with eight rounded Ribs, and surmounted by a Style, terminated with a Button, which usually juts out of the Flower. These Parts are sustained by a little Empalement, like a Cup, cut to the very Base into four equal Parts. This double Flower is Purple, as is also the Style ; but the Chives are white.

The Decoction of Heath is diuretic. *Clusius* affirms, that *Rondeletius*, the famous Professor of Physic at *Montpelier*, used the Oil of its Flowers for Tetters, with a great deal of Success. *Tabernæmontanus* says, that it is a Specific for these Sorts of Diseases ; and that a Fomentation, with the Flowers of Heath, eases the Pain of the Gout. For the same Disease they prepare a Vapour-bath, with its Leaves and Flowers. *Martyn's Tournefort.*

The Juice of Erica, or the distil'd Water of the Flowers, cures Redness of the Eyes, and mitigates Pains in them. A Decoction of the Leaves of *Erica*, taken warm, to the Weight of five Ounces, Morning and Evening, three Hours before Meat, for thirty Days successively, is effectual for breaking and expelling the Stone in the Bladder, as *Matthioli* experienced ; but he observes, that this Remedy becomes more successful, if the Patient, after the said Term of thirty Days, bathes himself in a Decoction of *Erica*, and, while he is therein, seats himself on the boiled Plant, and repeats the same Practice several times. *Matthioli* adds, that he knew some, who, observing an accurate Regimen of Diet, by only drinking this Liquor, voided Stones from the Bladder, crumbled into very small Particles.

The Scotch Highlanders often make their Beds of *Erica*, placing the Roots downwards, and the Leaves upwards, in so artificial a Manner, that they are as soft as Feather-beds, and much wholsomer. For the *Erica*, by its natural drying Quality, exhausts the superfluous Moisture, and by that means restores Vigour to the Nerves ; so that they, who went to Bed weak and fatigu'd, rise the next Morning full of Spirit and Alacrity. *Ray, Hist. Plant.*

2. *Erica ; vulgaris ; flore albo. C. B. P. 485. COMMON HEATH, WITH A WHITE FLOWER.*

3. *Erica ; Myricæ folio ; hirsuta. C. B. P. 485.*

4. *Erica ; maxima ; alba. C. B. P. 485.*

5. *Erica ; maxima ; purpurascens ; longioribus foliis. C. B. P. 485.*

6. *Erica ; humilis ; cortice cineraceo ; Arbuti flore. C. B. P. 486.*

7. *Erica ; humilis ; cortice cineraceo ; Arbuti flore albo. H. R. Par.*

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8. *Erica ; Africana ; arborescens ; tenui folio ; ramis atēd sursum unitis. H. Boerb. Ind. Alt. Plant. Vol. 1. p. 221.*

ERICERUM, ἐρικεῖον, the Name of several *Collyria*, in *Aetius. Tetrab. 2. Serm. 3. C. 102.* so call'd from *Erica*, Heath, a principal Ingredient. These are much recommended for drying up superfluous Moisture. See *ACHARISTON*.

ERICIS, ἐρικis, from ἐρίκω, to break. Barley grossly divided, or split in two. *Galen. Exeges.*

ERIEN. A Name for the *APOCYNUM*. *Raii Hist. Plant.*

ERIGERUM. See *SENECIO*.

Erigerum quantum. A Name for the *Conyza ; cœrulea ; acris.*

Erigerum tomentosum. A Name for the *Jacobæa ; Pannonica.*

ERIMOIDES. A Word peculiar to *Paracelsus*, which should seem to import Sand subsiding in the Urine.

ERINACEUS. The Urchin, or Hedghog. See *Herinaceus*.

ERINEOS, ἐρινεός, signifies the *Caprificus*, Wild Fig-tree.

ERINOS, ἐρινός. The Name of a Plant in *Dioscorides, L. 4. C. 29.* He says it grows near Rivers and Fountains, with Leaves like the *Ocymum*, but less, and divided on the superior Part ; it has five or six Branches about a Span long. The Flower is white, but the Seed black, small, and rough to the Taste ; the Leaves and Stalks are full of Juice. Two Drams of the Seeds, mix'd with four Drams of Honey, restrain Rheums of the Eyes, if they are therewith anointed. The Juice, mix'd with Sulphur, which has never been melted, and Nitre, and pour'd into the Ears, relieves Pains therein.

J. Bauhine mentions two Plants by this Name ; the *Erinos major Fab. Columnæ, Rapunculo affinis*, which seems to correspond with that above-describ'd, from *Dioscorides* ; and the *Erinos Fab. Columnæ minor*. And *Muntingius* takes notice of a third.

ERION, ἔριον, Wool. See *LANA*.

ERIPHORON, ἐριφῶρον. A sort of woolly Bulb, mention'd by *Theophrastus*.

ERIPHOS, ἐριφός. A Kid.

ERITHRONIUM *Satyrion*. The Name by which *J. Bauhine* calls the *Dens Canis, latiore, rotundiorque Folio.*

ERIX, ἐρίξ, in *Galen's Exegesis*, is explain'd, the superior Part of the Liver. But *Foesius* is of Opinion, that *Galen* read ἐρίξ, instead of σφύγξ, because the former Word does not, in our Copies, occur.

ERMESIA, ἐρμεσία. *Gorræus* informs us, that this was the Name of a Composition us'd by the Magi, in order to enable them to get strong and handsome Children. It consisted of Honey, Myrrh, Saffron, and Palm-wine, beat together, which was to be taken in Milk. The Women, it seems, were to take this, as well as the Men. As *Gorræus* has not quoted his Author for this, I don't know his Authority.

ERODENTIA. Eroding or corroding Medicines.

ERODINIUM. A Word us'd by some of the enthusiastical Chymists to express, as it should seem, a Prognostic.

EROSIO. Erosion, or Corrosion.

EROTION. A Name for the *APIASTRUM*. *Marcellus Empiricus, C. 28.*

EROTYLUS. A Name for the *Fungus ; Coralloides ; Encephaloides ; fuscus ; Gyris in Medio sulcatis, lamellatis, serratis.*

ERPES. See *HERPES*.

ERRATICUS. Erratic, wandering, irregular. The same as *ATACROS* ; which see.

ERRHINA, ἐρρίνα, from ῥίρ, the Nose. Medicines which, when snuff'd up the Nose, promote a Discharge of Mucus from that Part.

The Excretion of the mucid Lymph, secreted in the Glandular Pituitary Membrane, which lines the Cavities of the Nostrils, and the twelve Sinuses of the Brain, is excellently promoted by *Errhines* and *Sternutatories* ; the former of which only gently, but the later more forcibly, stimulate the Coats, and excite them to an excretory Motion. Among the milder Kind, or the Errhines, we justly reckon *Marjoram, Basilicon, Thyme, Hyssop, Savory, Marum Syriacum, the Tops of Origanum, Flowers of Lilies of the Valley and Benjamin, the Resin of Guaiacum, fine Raspings of Aloes-wood ; dry volatile Salt of Sal-ammoniac perfum'd with Oil of Marjoram ;* as also white Vitriol. On the contrary, violent Sneezing is produc'd by *Euphorbium, and the Powder of white Hellebore ;* and, in a milder Degree, by the various Kinds of Snuffs, precipitate Mercury, and Pepper.

Sternutatories draw the Humours from the Coats of the Nostrils in the same manner Purgatives do from the glandulous Coats of the Intestines ; that is, by their subtle and highly acrid Salts, which stimulate, and, as it were, produce a Crispature of these Coats. But, as acrid Purgatives, so also *Sternutatories* ought to be very rarely us'd, because, in the Work of Evacuation, Nature rather delights to be gently led, than forc'd and compell'd. But Errhines, which are more friendly to the Constitution and Nerves, by their subtle, acrid, and volatile

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Salt, gently stimulate the pituitary Membrane, draw the mucid Humour from it, and are much safer than Sternutatories, since these latter induce a kind of convulsive Motion on the Nerves, and, by Consent, on the whole Breast; whereas the former, in their Operation, rather corroborate the Nerves and nervous Coats.

Errhines prepar'd of Cephalic Herbs, especially Marjoram, Marum Syriacum, Flowers of Benjamin and Lilies of the Valley, and Rasplings of Aloes-wood, with the Addition of a Grain or two of Ambergrise, are of singular Service in oppressive Pains of the Head, a Hemisrania, lethargic Disorders, Weakness of Memory, Stuffing of the Head, a Coryza, Dulness of Hearing, a pituitous Cephalalgia, especially that which has its Seat in the Bones of the Forehead, and for the most part arises from a Suppression of a Coryza, mucous Defluxions of the Eyes, Drowsiness, Vertigoes, and in Cases where malignant Humours, generated by a Lues Venerea, are lodg'd in the Membranes of the Nostrils. And these Errhines, besides the Evacuations procur'd by them, convey a certain Vigour and Energy to the animal Functions. A few Grains of the volatile Salt of Sal-ammoniac mix'd with the Balsamic Elixir, and put up the Nostrils, are of singular Efficacy in Dulness of Hearing, Dimness of Sight, and lethargic Disorders; and as this Preparation excites Sneezing in delicate Constitutions, 'tis often advantageous in paralytic and apoplectic Cases, where the Humours of the Head are to be stimulated to a brisker Motion.

At present, Smoaking, and taking Snuff, are more used than is consistent with Health; for by continually snuffing up the Powder of Tobacco, the Smell, in consequence of the Obstruction, and, as it were, Induration of the nervous Papillæ of the Membranes, which cover the Ossa Squamosa, and Nostrils, is not only injur'd, but the Voice, which was before clear, becomes hoarse, by a Congestion of Humours to the Parts. *Frederic. Hoffman.*

ERRIPSIS, ἑρριψις, from ῥίπτω, to precipitate.

When us'd with respect to the Body, it imports that utter Dejection, and Prostration of Strength, which suffers a Person to sink down like a Carcase, as is explain'd under the Article *Decubitus*. When apply'd to the Eyes, it signifies a very great Weakness, which prevents their being kept open.

ERROR LOCI. This is a Term introduc'd, as far as I remember, by *Boerhaave*. This celebrated Author informs us, that in the Body there is a decreasing Series of Vessels; by which he means, that the first Order of Vessels are adapted to receive the red Globules of the Blood; the next are, perhaps, smaller, and convey the Serum; the next the Lymph; and the next in Order, yet finer Fluids. Now, when the red Globules of the Blood are propel'd into the Vessels destin'd for the Conveyance of Serum, or when the Serum gets into Vessels, in which only a finer Fluid ought to circulate, this he calls an *Error Loci*.

ERVADO *Capitum*. The Name of a Plant which grows in *Brasil*; call'd, also, by *Margrave*, *Cotyledon*, *repens*, *Brasiliensis*.

ERUCA.

The Characters are;

The Pod is full of roundish Seeds, and the Plant has a particular Taste, and a particular fetid Smell above all others.

Boerhaave mentions seven Species of this Plant; which are,

1. *Eruca*; sylvestris; major; lutea; caule aspero. *C. B. Pin.* 98. *Tourn. Inst.* 227. *Boerb. Ind. A.* 2. 15. *Eruca sylvestris*, *Offic. Ger.* 191. *Emac.* 246. *Raii Hist.* 1. 807. *Synop.* 3. 296. *Merc. Bot.* 1. 34. *Phyt. Brit.* 39. *Eruca sylvestris major vulgarior factans*, *Hill. Oxon.* 2. 231. *Eruca tenuifolia perennis flore luteo*, *J. B.* 2. 862. *Chab.* 276. WILD ROCKET. *Dale*, p. 203.

This Rocket has a long white Root, with many Fibres at the Bottom; from which arise a great many striated Stalks a Foot or two high, full of narrow, long, and deeply lacinated Leaves. The Flowers are pretty large and yellow, of four Leaves apiece, which are succeeded by long, narrow, angular Pods, full of small, hot, bitterish Seed. The whole Plant has an ungrateful, fetid Smell. It grows frequently upon old Walls, as on the Walls of the City of London, in great Plenty; flowering great Part of the Summer.

This Rocket is hot and dry, and much of the Nature of the following; but is very rarely used in Physic. *Miller's Bot. Off.*

This Plant is of a Taste altogether acrid and burning, mixed at last with a little Bitterness; it gives a pretty deep Tincture of Red to the blue Paper, and its Smell resembles that of fetid Oils rectified over Quick-lime; which makes us believe, that it contains a Salt very acrid, which in some measure resembles the Sal-ammoniac, mixed with a great deal of fetid Oil and Earth.

Thus it is no Wonder, that the Plant, of which we are speaking, should be aperitive, incisive, and diuretic. *Matthioli* affirms, that, being boiled with a little Sugar, it is good for the Cough in Children, which is generally occasioned by

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glutinous Matters, irritated in the Bronchia and Vessels of the Lungs. *Martyn's Tournefort.*

2. *Eruca*; major; sativa; annua; flore albo; striato. *J. B.* 2. 859. *Raii Hist.* 1. 806. *Hist. Oxon.* 2. 228. *Boerb. Ind. A.* 2. 15. *Eruca*, *Offic. Chab.* 276. *Eruca latifolia alba sativa Dioscoridis*, *C. B. P.* 98. *Tourn. Inst.* 227. *Elem. Bot.* 193. *Eruca sativa*, *Ger.* 191. *Emac.* 246. *Park. Parad.* 502. *Eruca sativa alba*, *Park. Theat.* 816. GARDEN ROCKET. *Dale*, p. 203.

The common Garden Rocket has a slender white woody Root, of a hot biting Taste; the Leaves somewhat resemble Mustard in Shape, but are much smoother; the Stalks grow to be two or three Foot high, clothed with lesser Leaves, having on their Tops many Flowers of a whitish-yellow Colour, full of dark-purple Veins; the Seed-vessels, which succeed them, are long, slender and smooth, parted in two by a thin Membrane, and opening at the Sides when the Seed is ripe, which is very small, of a redish yellow Colour, and a roundish Shape, and hot Taste. It is sown in Gardens, and the Seed is ripe in July.

Rocket is eaten frequently among other Herbs as a Salad, tho' many People dislike it for its strong, ungrateful Smell; it has the Name of a Provocative, and Exciter to Veneries, and is likewise a good Diuretic. *Matthioli* commends the Leaves, boil'd with Sugar, to be given to Children for a Cough: I suppose he means, that they should be made into a Syrup. *Camerarius* says, that an equal Part of the Powder of Rocket and Cumin-seed is a mighty Preservative against an Apoplexy. *Miller's Bot. Off.*

The Seed bruised and drank in Wine, kills Worms, and reduces a tumid Spleen. The Leaves bruised and apply'd to the Eyelids, sharpen the Sight. The Seed mix'd with Honey removes all Spots and Freckles from the Face, and more effectually with an Addition of Ox-gall. The Root, boiled in Water, and apply'd, draws out Fragments of Bones. *Ray's Hist. Plant.*

3. *Eruca*; folio bellidis. *M. H.* 2. 231. a. DAISY-LEAV'D ROCKET.

4. *Eruca*; tanacetii folio. *H. R. Par.* TANSY-LEAV'D ROCKET.

5. *Eruca*; sativa; foliis magis dissectis. *H. Edinburgh.* GARDEN ROCKET WITH DEEP-CUT LEAVES.

6. *Eruca*; cœrulea; in arenosis crescens. *C. B. P.* 99.

7. *Eruca*; tenuifolia; perennis; flore luteo. *J. B.* 2. 861. a. NARROW LEAV'D PERENNIAL ROCKET, WITH A YELLOW FLOWER.

Boerhaave, Ind. alt. Plant. Vol. 2. p. 15.

ERUCA. *Offic. Schrod.* 5. 341. *Eruca Brassicaria maxime vulgaris, nigro, luteo, & cœruleo coloribus variegata.* *Raii Insect.* 113. THE CATERPILLER.

It is the Fœtus of a Sort of Butterfly, and undergoes the same Metamorphosis as the Silk-worm, and at length passes into a Butterfly. There are many Species; but that which ought to be used in the Shops, is an Insect known to every body, that feeds upon the Leaves of the Cabbage.

Caterpillers bruised, or the Powder of them, raise a Blister like Cantharides, and take off the Skin. *Mouffet* says, they will cause the Teeth to fall out of their Sockets; and *Hippocrates* writes, that they are good for a Quinsy.

The Caterpillers of Pine-trees are mentioned by *Dioscorides*, without any Description. *Matthioli* informs us, that they are frequently found on the Pine-trees about Trent: And, as far as may be collected from his Description, they are gregarious, like some of the searian, or inclosing, Kind, which inclose themselves in one large Web. *Dale.*

ERUCAGO.

The Characters are;

The Fruit is like a quadrangular and crested Club, divided, generally, into four Cells, full of roundish beaked Seed.

Boerhaave mentions but one Species of this Plant, which is, *Erucago*; segetum. *T.* 232. 108. *Sinapi echinatum*, *Lugd.* 647. *J. B.* 2. 858. *Raphanistrum, dispernum, Monspeliacum, siliula quadrangula, echinata.* *H. L.* 520. CORN-ROCKET. *Boerb. Ind. alt. Plant. Vol. 2. p. 10.*

Lemery says, it is incisive, and attenuating, proper to rarefy the pituitous Humours of the Brain, and to provoke Sneezing.

The History of Plants, attributed to *Boerhaave*, mentions it as an Antiscorbutic.

ERUCTATIO. Eructation, or Belching.

ERVILIA. A Name for the *Ochrus, folio integra, Capreolos emittente.*

ERUPTIO. Eruption. It imports a sudden and copious Excretion of Humours; for Example, of Pus, or Blood. But it also signifies the same as Exanthema.

ERVUM.

The Characters are;

The Pods are articulated, and undulated on both Sides, as if knotted, and full of roundish Seeds. The Leaves grow by Pairs, as if conjugated to a middle Rib.

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Boerhaave mentions two Species of this Plant; which are,
1. *Ervum*; *verum*. *Tourn. Inst.* 398. *Elem. Bot.* 317.
Boerb. Ind. A. 2. 47. *Orob.* *Ervum*. *Offic. Chab.* 148.
Orob. siliquis-articulatis, semine majore. *C. B. P.* 346. *Oro-*
b. receptus Herbariorum. *Ger.* 1051. *Emac.* 1225. *Orob.*
vulgaris Herbariorum. *Park. Theat.* 1025. *Orob. sativus,*
sive Ervum semine anguloso, siliquis inter grana junctis. *Hist.*
Oxon. 2. 74. *Orob.* *sive Ervum multis*. *J. B.* 2. 321. *Raii*
Hist. 1. 915. BITTER VETCH.

This Vetch seldom grows to above a Foot and an half, or two Foot, high; full of weak angular Stalks, having many winged Tare-like Leaves, whose obtuse Pinnæ are more numerous and slender. The Flowers grow at the setting on of the Leaves, singly, in Shape like the Flower of a Tare, or Vetch, but less, and of a white Colour; and are succeeded by small round Pods, containing two or three large round white Seeds, which swell out the Pod, making it appear, as it were, jointed: It grows in *Italy*, and some Parts of *France*; and flowers in *June*.

The Powder of bitter Vetch, mixed with Honey, is accounted good to cleanse the Lungs of tough Phlegm. It is a strong Diuretic, and expels the Stone and Gravel; but, if taken too frequently, it causes bloody Urine: It is but seldom used. The Meal of it was formerly employed to make up the Trochisci Scillitici; but now we make them up with the Meal of the Cicers. *Miller's Bot. Off.*

It is sometimes, though but rarely, cultivated in Gardens, and flowers in *June*. The Part in Use is the angulous, roundish, brown, redish Seed, or Grain, which is of a leguminous, bitterish, and ungrateful Taste. In its farinaceous Substance it answers to the Fenugreek, and contains a diuretic Salt; on which Account it is commended, as good to expel the Stone. *Dale.*

2. *Ervum*; *Oriente*; *alopecuroides*; *perenne*, *fructu longissimo*. *T. C.* 27. *H. R. D.* ORIENTAL PERENNIAL ERVUM, WITH A VERY LONG FRUIT.

Boerb. Ind. alt. Plant. Vol. 2.

Miller takes notice of two more Species.

ERYGE, ἐρύγι. An Eructation. See RUCTUS. Hence Erygmatores, ἐρύγματῶρες, flatulent; attended with Eructations.

ERYNGIUM.

The Characters are;

The Leaves grow alternately on the Stalks, which are remarkably smooth; the Flowers consist of five small Petals, which are reflected, or turned backwards, towards a common Centre, and infixed in a tubular quinquefid Calyx, bearded on the lower Part, and squamose within; and are collected into a scaly echinated, or prickly, Head, which, at the Base, is surrounded with a radiated prickly Crown; and these Heads are disposed in form of an Umbella. The Ovary consists of two Seeds, which are sometimes foliated, sometimes plain.

Boerhaave mentions eleven Species of this Plant; which are,

1. *Eryngium*; *maritimum*. *C. B. P.* 386. *Hist. Oxon.* 3. 165. *Tourn. Inst.* 327. *Elem. Bot.* 278. *Boerb. Ind. A.* 134. *Eryngium*. *Offic.* *Eryngium marinum*. *Chab.* 355. *Ger.* 999. *Emac.* 1062. *Park. Theat.* 986. *J. B.* 3. 86. *Raii Hist.* 1. 384. *Synop.* 3. 222. *Mer. Pin.* 36. *Eryngium marinum, sive vulgare*. *Merc. Bot.* 34. *Phyt. Brit.* 39. ERYNGO. *Dale.*

This Eryngo has pretty large, white, and long Roots, which spread much in the Earth, and run deep in it. The Leaves are hard, stiff, and veiny, narrow at Bottom, and broad and roundish at the End, with several Laciniae terminating in sharp Prickles; the Stalk arises not to any great Height, being smooth, crested, and channeled; the Leaves on the Stalks are less, and rather stiffer, set on without Foot-stalks, with prickly Edges. At the Ends of the Branches come forth round and somewhat prickly Heads, beset with stiff narrow Leaves, growing like a Star, under them. The Flowers are set in these Heads, of a greenish white Colour, each in a separate Calyx, like the Teasel, succeeded by statish Seed. It grows by the Sea-side, in many Places, in sandy Ground, and flowers in *June* and *July*. The Roots only are used.

Eryngo-roots are hepatic and diuretic, opening the Obstructions of the Liver, helping the Jaundice and Dropsy, provoking Urine, and easing the Strangury. Candy'd with Sugar, they are accounted very restorative, good for consumptive Persons, and those wasted with long Illness, and too much Vener; they being reckoned Strengtheners to the Parts of Generation. They are recommended by some for the Lues Venerea and Gonorrhœa, as taking off the Acrimony and Heat of Urine usually attending those Distempers, by their balsamic softening Qualities. *Miller's Bot. Off.*

The Root is nephritic and alexipharmic, and is of principal Service in Obstructions of the Menstrues, Urine, the Liver, Gall, Spleen, and other Parts: Whence it is effectual in the Jaundice and Colic. *Dale* from *Schrader*.

2. *Eryngium*; *vulgare*. *Offic. C. B. P.* 386. *J. B.* 3. 85.

Raii Hist. 3. 384. *Synop.* 222. *Tourn. Inst.* 327. *Elem. Bot.* 278. *Rupp. Flor. Jen.* 222. *Buxb.* 105. *Boerb. Ind. A.* 134. *Hist. Oxon.* 3. 165. *Eryngium*. *Chab.* 354. *Eryngium Mediter-*
raneum. *Ger.* 999. *Emac.* 1062. *Eryngium Mediterraneum,*
sive Campestre. *Park. Theat.* 986. COMMON ERYNGO. *Dale.*

Cæsalpinus says, there is no discovering any Flower upon this Plant. *Dodonæus* affirms its Flower to be blue, and seldom yellow. For my Part, I have observed it to consist of five whitish Petals.

One finds some Acrimony in the Eryngo, upon chewing it; its Leaves give a faint-red Colour to the blue Paper; its Roots give it a deeper: So that it is likely, that their Salt, in some measure, resembles Sal Ammoniac; but that it is joined with some Sulphur, and terrestrial Substances.

There is an indifferent Quantity of concreted volatile Salt, and a great deal of Oil and Earth, obtained from this Plant by the chymical Analysis. *Martyn's Tournesort*.

It is scarce in *England*, but common in foreign Countries; it flowers in *July*; and the Root is used, which has the same Virtues as the preceding. *Dale.*

3. *Eryngium*; *latifolium*; *planum*. *C. B. P.* 386. *M. H.* 3. 165. BROAD-LEAV'D PLAIN ERYNGO.

4. *Eryngium*; *latifolium*; *caule ex viridi pallescente, flore albo*. *C. B. P.* 386.

5. *Eryngium*; *latifolium*; *caule & flore Amethystino pulcherrimo*.

6. *Eryngium*; *Oriente*; *solis trifidis*. *T. Cor.* 23. *H.*

7. *Eryngium*; *planum*; *minus*. *C. B. P.* 386. *M. H.* 3. 166.

8. *Eryngium*; *Oriente*; *tenuissime incisum, capite stellato*. *T. Cor.* 23. *H.*

9. *Eryngium*; *planum*; *latifolium*; *Creticum*; *flore cœrulea ex albo misto variegato*. *Sher. H. Maurocen.*

10. *Eryngium*; *maritimum*; *Lusitanicum*; *folio ampliori*. *T. 327. H. R. Par. M. H.* 3. 165. *II.*

11. *Eryngium*; *Hispanicum*; *annuum*; *folio cæsis, splendens*; *flosculis vix conspicuis*. *a.*

Boerb. Ind. alt. Plant. Vol. 1. p. 134.

Besides the above-mentioned Species of this Plant, *Dale* mentions the following:

Eryngium trifolium. *Offic. Alpin. Exot.* 153. *Park. Theat.* 987. *Raii Hist.* 386. *Hist. Oxon.* 3. 167. TREFOIL ERYNGO. *Dale.*

The Root provokes Urine, and excites to Vener. *Ray.*

ERYSIMUM.

The Characters are;

It has a long, thin, slender Pod, full of very small round Seeds; and it has a peculiar Appearance.

Boerhaave mentions eleven Species of this Plant; which are,

1. *Erysimum*; *vulgare*. *C. B. Pin.* 100. *Hist. Oxon.* 2. 218. *Tourn. Inst.* 228. *Elem. Bot.* 194. *Boerb. Ind. A.* 2. 14. *Rupp. Flor. Jen.* 65. *Dill. Cat. Giff.* 93. *Buxb.* 109. *Erysimum*. *Offic.* *Erysimum Dioscoridis Lobelii*. *Ger.* 198. *Emac.* 254. *Erysimum vulgare, sive Irio*. *Mer. Pin.* 36. *Erysimum Tragi flosculis luteis, juxta muros proveniens*. *J. B.* 2. 863. *Iris, sive Erysimum*. *Chab.* 278. *Merc. Bot.* 1. 44. *Phyt. Brit.* 621. *Iris, sive Erysimum vulgare*. *Park. Theat.* 833. *ErUCA siliqua cauli appressa, Erysimum dicta*. *Raii Hist.* 1. 810. *ErUCA hirsuta siliqua cauli appressa Erysimum dicta*. *Synop.* 3. 298. HEDGE-MUSTARD. *Dale.*

The Root of Hedge-mustard is long, whitish, frequently crooked, and full of small Fibres. The Stalk arises to be a Foot and an half, or two Foot, high, tough and pliant, branching out, usually, on all Sides, like a Shrub, or Bush. The lower Leaves are long and narrow, cut into several jagged Segments, set opposite to one another, with one more blunt at the End, and are somewhat hairy; the Leaves, which grow on the Stalks, have fewer Segments, the upper many times but three, appearing like the Head of an Halbert; the Flowers are yellow, very small, and four-leaved, growing thick together at the lower End of the Branches; which flowering gradually, and the Stalk still extending itself, the Spikes of the Seed-vessels grow to a great Length, being round, sharp-pointed, clapping close to the Stalks, and are full of hot biting Seed. It grows every-where, by the Way-side, flowering good Part of the Summer. The Herb is used.

Hedge-mustard is hot and dry, opening and attenuating, and, by its warming Quality, is good to dissolve thick, gross, slimy Humours in the Lungs, to help a Cough, and Shortness of Breath; and it is particularly recommended against an habitual Hoarseness, to recover the Voice. *Riverius* praises a Decoction of it, in Wine, against the Colic.

The only official Preparation of this Plant is the Sympus de Erysmo. *Miller's Bot. Off.*

Hedge-mustard has an herby Taste, a little saltish, and glutinous. It gives a pretty deep red Colour to the blue Paper; which gives us Reason to believe, that it contains a Salt resembling Sal Ammoniac, tempered with Phlegm, Sulphur, and

and Earth: Thus, the Hedge-mustard is proper for all the Diseases of the Lungs, where a condensed Lymph is to be dissolved, which adheres to the Bronchiæ, and Vesicles, as it often happens in old Coughs, and in an Asthma. They prescribe a Handful of it in Cock-broth. They macerate cold, in Water, this Plant, hashed coarse. The Syrup, made with the Juice, is very good. The Syrup, described in *Rondeletius's Dispensatory*, printed in the Memoirs of *Péna* and *Lobel*, and published in 1605. is too compound. *Martyn's Tournefort*.

The Erysimum is a good external Remedy for Cancers not exulcerated, and for hard Tumors. *Ray*.

SYRUPUS DE ERYSIMO: Syrup of Erysimum.

Take of Hedge-mustard, fresh gathered, six Handfuls; of Elecampane-root, and Coltsfoot, also very fresh gathered and Liquorice-roots, of each two Ounces; of the Leaves of Borrage, of Succory, and Maidenhair, of each one Ounce and an half; of the cordial Flowers, and the Flowers of Rosemary and Betony, of each half an Handful; of Anise-seeds, half an Ounce; of ston'd Raisins, two Ounces: Let them infuse together, a whole Day, in Water and Mead, of each two Pints and an half; and of the Juice of Hedge-mustard, eight Ounces. Boil them in a Bath-heat; and to the Liquor, strongly pressed out, and clarified, put four Pounds and an half of Loaf-sugar; and boil to a Syrup, in the same Heat. *S. A.*

2. Erysimum; alterum; siliquis Erucæ. *C. B. P.* 101.
3. Erysimum; angustifolium; majus. *C. B. P.* 101. *Rapistrum sylvestris, Irionis folio, λισσισμακρον ἐρασιον.* *T. Cor.* 266. *Rapistrum italicum, siliquis longissimis.* *C. B. P.* 95. GREAT NARROW-LEAV'D HEDGE-MUSTARD.

4. Erysimum; Genuense; sylvestre. *Flor. 1.* *Sinapi Genuense, sylvestre.* *J. B. 2.* 858.

5. Erysimum; Genuense; sylvestre; flore sulphureo. *Ind.* 143. *a.*

6. Erysimum; Polyceratium, vel corniculatum. *C. B. P.* 101. HEDGE-MUSTARD WITH MANY CROOKED PODS.

7. Erysimum; semine minimo pallido; siliquis Erucæ. *a.*

8. Erysimum Orientale; folio Sonchi; flore sulphureo, siliquis longissimis. *a.*

9. Erysimum; Orientale; siliquis strictissimis. *Sber. a.*

10. Erysimum; minimum; flore albo; Montis Aurci. *Paill.*

11. Erysimum; Monspeulanum; sinapios foliis. *Raii Hist.* 1. 812. *Boerb. Ind. A. 2.* 14. *Erysimum latifolium.* *Offic.* *Erysimum latifolium majus glabrum.* *C. B. Pin.* 101. *Chom.* 105. *Tourn. Inst.* 228. *Elem. Bot.* 194. *Hist. Oxon.* 2. 218. *Erysimum latifolium Neapolitanum, Park. Theat.* 298. *Raii Hist.* 1. 811. *Synop.* 3. 298. *Erysimum hirsutum, foliis Erucæ.* *Flor. Pruss.* 69. *Sinapi sylvestre Monspeulanum, lato folio, flosculo luteo minimo, siliqua longissima.* *J. B. 2.* 858. BROAD-LEAV'D HEDGE-MUSTARD. *Dale.*

The Figure which *Columna* has given, is good. Some make the Syrup of Erysimum with the Juice of this Species.

Martyn's Tournefort.

It agrees in Virtues with the common Erysimum. *Dale.*

ERYSIPELAS, *ερυσίπελας*. An Erysipelas, or St. Antony's Fire. This Distemper seems to have taken its Denomination from the Colours which it induces on the Parts it affects; and to be derived from *ερυθρός*, red, and *πῶδες*, livid, or black.

The Nature of an Erysipelas, and the Characters by which it is distinguished from a Phlegmon, are thus described by *Galen*: "If a Fluxion, says he, be mixed of Blood, and yellow Bile, immoderately hot, or only of fervid and very thin Blood, the Affection is called an Erysipelas, and is much hotter than a Phlegmon, and of a yellower Colour; and, if you touch it, the Blood easily retires from the Place, and flows thither again, being exquisitely thin, and red to the Sight. Besides, it is not attended with a Pain, as in a Phlegmon, nor resembles any Species of Phlegmon, either in Pulsation, Compression, or Tension; but is sometimes very favourable to the Patient, and especially when it is effused, or spends its Force only upon the Skin, leaving the subjacent Flesh unaffected. And thus it is, indeed, for the most part, or whenever it is a perfect and genuine Erysipelas; whereas one that injures the subjacent Flesh, being not constituted of an exquisitely thin Flux, is not a simple Erysipelas, but a Disorder composed of an Erysipelas and a Phlegmon; in which, sometimes, the proper Symptoms of an Erysipelas are most predominant, and then it is called, by our modern Physicians, a Phlegmonoid Erysipelas; sometimes these of a Phlegmon, in which Case they give it the Name of an Erysipelatous Phlegmon: But if the Symptoms of neither prevail above those of the other, but there appears an Equality between them, they say the Disease is a Com-

plication of a Phlegmon and an Erysipelas. A true and perfect Erysipelas, therefore, is an Affection of the Skin alone; but a Phlegmon, though not alone, yet principally, of the subjacent Flesh, and sometimes, also, of the Skin; which latter, in other respects, is no less painful and afflictive than the other, but is not attended with a Pulsation." *Lib. 2. ad Glauc.* The same Author, *Lib. 14. Meth. Med.* speaks in the following Manner: "There is another Disease, not much different from a Phlegmon, which is called Erysipelas, consisting of a bilious Humour: Some Characters it has in common with a Phlegmon, as a preternatural Tumor, and an Heat; but there is a Difference between them, which consists, first and principally, in Colour: While the Colour appears red, it is called a Phlegmon; but when pale, or yellow, or mixed of these two, it acquires the Name of Erysipelas. Moreover, the Pulsation is a proper Symptom of a great Phlegmon, because this Disorder is generally profoundly seated in the Body; but an Erysipelas affects the Skin more than the Parts underneath; for the Humour of the pale Bile is of a thin Consistence, so as to be easily transmitted through the carnos and rare Parts of the Body to the very Skin; but the Denseness of the Skin is not, in like manner, pervious to this Bile, unless it be extremely thin and aqueous, much of the same Nature with what is eliminated every Day in Sweat." In another Place of the same Book, he tells us, "that, if the Humour be immoderately thick and acrimonious, it excoriates the Epidermis, and, in time, corrodes the subjacent Parts; so that there are two Kinds of Erysipelas, one attended with an Exulceration, the other not." And the same Distinction is expressed by *Hippocrates*, *5 Aph.* 23. See INFLAMMATIO.

In erysipelatous Fevers, which are justly classed among those of the exanthematous Kind, the Blood and Humours being in an intense Motion, an acrid Serum, of a sulphureous and caustic Nature, is, by that means, propelled to the Surface of the Body; and produces a Swelling, accompanied with Redness, Heat, and Pain.

An erysipelatous Fever is so far from being so innocent and simple as is generally thought, that it is often violent, dangerous, frequently mortal, and nearly allied to a pestilential Fever, the most formidable of all Disorders; for, as this last-mentioned Disease seizes suddenly with an intense Horror, Heat, Prostration of the Strength, a violent Pain of the Back and Head, Vomiting, and a Delirium; so erysipelatous Fevers are, in the Beginning, accompanied with the same Symptoms. As in a pestilential Fever the malignant Matter is, between the third and fourth Days, propelled to the Surface of the Body, by which the Violence of the Symptoms is diminished; so the same happens in erysipelatous Fevers. As in pestilential Fevers the poisonous Matter affects the Glands, especially those of the Groin, and first produces a Pain and Tension of them; so, in a violent Erysipelas, a Swelling, Redness, and Pain, are first perceived in the inguinal Glands; after which a Matter of a hot and burning Nature descends to the Legs. As in pestilential Fevers the peccant Matter, most frequently, fixes its Seat in the mammary, axillary, and parotid Glands; so the same happens in an Erysipelas, which, when it seizes the Head, first affects the parotid Glands; and, when it seizes the Breast, the axillary Glands. As in pestilential Fevers the noxious Matter forms Abscesses in the Glands, and readily induces a Gangrene and Sphacelation on the external Parts; so in an Erysipelas the Glands, especially those of the Axillæ and Breasts, are often so burned, as to contract Pus, whilst, at the same time, the Joints are affected with an unseemly Corruption, as is sufficiently known by every one in the least conversant in the Practice of Physic. Lastly, as in the the Plague nothing is more dangerous than a Retrocession of the expelled Matter from the Surface to the internal Parts of the Body, so the same Danger and Disadvantages are produced by the Retrocession of the Matter in erysipelatous Cases.

But an erysipelatous differs from a pestilential Fever in this, that the former is not produced by Contagion, but by an internal Cause. It does not, by the Exhalations of the Body, infect those who are sound; nor is it so violent, and immediately productive of the Death of the Patient, as a Fever of the pestilential Kind. Erysipelatous Inflammations are distinguished from others by this, that in the former the Tumor is more depressed, the Pain not so tense, and the Colour of the Skin more red and florid than in the latter, where it is rather darker. A Phlegmon is distinguished from an Erysipelas by this, that in the latter the Swelling is more superficial, spreads farther, and, when pressed, loses its Colour; the Matter is, also, thin, and small in Quantity; whereas in a Phlegmon the Inflammation is deeper, affecting not only the Skin, but the subjacent Fat and Muscles; and so hard, that it does not lose its Colour upon being pressed. It is produced by an impure and stagnant Blood, and easily degenerates into a Gangrene.

An Erysipelas is, by Physicians, commonly distinguish'd into that of the legitimate Kind, which is also call'd simple; and that of the spurious Kind, which is also call'd scorbutic.

The

The simple Kind only affects the Surface of the Skin, and easily yields to the Influence of proper internal and external Medicines. But that of the spurious or scorbutic Kind is of a more chronical Nature, more deeply seated, in consequence of the Impurity of the Juices, not to be cured without Difficulty, and easily degenerating into Ulcers of a bad Kind. The spurious or scorbutic Erysipelas is subdivided into that with, and that without, Exulceration. In the former, more Trouble is created to the Physician, and more Danger to the Patient; since the Ulcers are often with Difficulty consolidated after a long time. Besides, erysipelatous Fevers are sometimes of the idiopathic or primary, and sometimes of the symptomatic and secondary Kind; for in an Anasarca, an Ascites, as also in a long-continued Jaundice, whether of the black or yellow Kind, it frequently happens, that a symptomatic Erysipelas soon destroys the Patient. This Disorder is also frequently complicated with Wounds of the nervous Parts, especially of the Cranium, and its Membranes, as also with Fractures of the Bones; in which Cases, the Patient's Life is in Danger. *Frederic Hoffman.*

An Erysipelas is distinguish'd into that of the simple, and that of the exulcerated Kind. Both these generally begin with a Horror and Fever, but never come up to the State of a real Inflammation; afterwards they become painful, turgid, and diffuse themselves over a great Part of the Surface of the Body. They are of a redish-yellow Colour, which disappears when the Part affected is press'd with the Finger, but returns upon its Removal. They are not accompanied with Pulsation, much less with any Degree of Tension. They also remove from one Place to another, and excite a gnawing and burning Sensation in the Part affected.

A simple Erysipelas discovers itself by a Heat, or a certain Burning and Redness of the Parts, without any Ulcer. *Hippocrates*, in his Aphorisms, calls this Disorder *εμφύγιον*, but the Moderns style it the *Rose*, from the Resemblance its Colour bears to that of this Flower. According to the now quoted Author, this Disorder, when suddenly striking inwards, after it has once appear'd on the Breast, proves very terrible and fatal by means of the Quinsey it excites.

In an Erysipelas of the ulcerated Kind, which is properly call'd the *Ignis Sacer*, the Surface of the Skin is sometimes cover'd with small Scales, resembling Bran; at other times, the whole Skin is ulcerated, and the Pustules, breaking, discharge a purulent Sanies. An Erysipelas frequently appears on the Face, and sometimes spreading over the Whole of it, so distends and tumefies it, as to endanger a Suffocation, unless the Patient is speedily relieved by proper Remedies. An Erysipelas, arising from a fractur'd or denudated Bone, is generally of bad Presage. 'Tis always proper and beneficial to force an Erysipelas from the internal to the external Parts; whereas 'tis prejudicial, if not fatal, to repel it from the latter to the former. In this Disorder, a Putrefaction or Suppuration happening, are bad Signs; but these scarce ever occur in a simple Erysipelas, which is, for the most part, insensibly dissipated by cutaneous Perspiration. *Lommii Medic. Observat.*

This Disease affects every Part of the Body, but especially the Face; and it happens at all times of the Year, but principally at the Close of Summer, at which time it frequently attacks the Patient whilst he is abroad. The Face swells of a sudden, with great Pain and Redness, and Abundance of small Pimples appear; which, upon the Increase of the Inflammation, often rise up into small Blisters, and spread considerably over the Forehead and Head, the Eyes, in the mean time, being quite closed by the Largeness of the Tumor. The Country-people term it a Blaft, or Blight; and, in reality, it differs little from those Symptoms which accompany the Wounds made by Stings of Bees, or Wasps, excepting only that there are Pustules. And these are the Signs of the common and most remarkable Species of the Erysipelas.

But whatever Part is affected by this Disease, and at whatever time of the Year it comes, a Chillness and Shivering, unless they preceded a Day or two before, as it sometimes happens, generally attend this Inflammation, with Thirst, Restlessness, and other Signs of a Fever. As the Fever in the Beginning occasion'd the Pain, Swelling, and other Symptoms, (which, increasing daily, terminate in a Gangrene) so in the Course of the Disease these Symptoms greatly conduce to the Increase of the Fever, till both are taken off by proper Remedies.

There is another Species of this Disease, though it happens less frequently. This attacks at any time of the Year, and is mostly owing to too free an Use of subtle attenuating Wines, or some similar spirituous Liquor. It begins with a slight Fever, which is immediately succeeded by an Eruption of Pustules, almost over the whole Body, resembling those occasion'd by the Stinging of Nettles; and sometimes they rise up into Blisters, and soon after disappear, and lie concealed under the Skin, where they cause an intolerable Itching, and, after gentle scratching, come out again. *Sydenham.*

An Erysipelas is that Species of Inflammation, which, arising in the Skin, and its subjacent Fat, sometimes spreads itself very

far, and is accompanied with Redness, Heat, and Pain. The Part affected, when press'd with the Finger, becomes remarkably white; but, soon after its Removal, resumes its former Redness. Though Inflammations of this kind most frequently arise in the Arms and Legs, yet they sometimes happen in the Neck, the Head, the Shoulders, the Nose, and other Parts. Upon the first Approach of this Disorder, the Patient is almost always seiz'd with a Shivering and Coldness, which are soon succeeded by a Degree of Heat, equal to that perceiv'd in burning Fevers: For this Reason, 'tis, both by antient and modern Authors, call'd *Ignis Sacer*. *Heister.*

An Erysipelas is not always of the same Nature, and equally violent, in all Patients; for in some, especially young Persons, the Matter being neither very virulent, nor very large in Quantity, the Disease is but slight and benign; because it neither possesses the Glands, nor excites an intense Fever, but appears on the second Day, with Redness, Swelling, and Pain of the Feet; and, by means of a due Perspiration, or the Use of gentle domestic Medicines, is quickly dissipated. But, in old Persons, and Patients of cacochymic and impure Habits, where the Matter is larger in Quantity, and of a worse Quality, the System of the Nerves and Vessels is more violently agitated, the Fever is more violent, the Pain and Uneasiness more intense, and, unless treated with suitable Remedies, afflicts the Patient for a long time, and proves very obstinate. Erysipelatous Disorders are different, and attended with distinct Symptoms, according to the different Parts of the Body they seize. When this Disorder seizes the Feet, it produces a shining Colour of the Shins; and, if it should happen to be more violent, this Colour is propagated to the whole Legs, and accompanied with Pain, so that the Parts are exasperated by the gentlest Touch. When this Disorder seizes the Face, it becomes gradually tumid and red, with a large Number of aqueous Vesicles interspersed; the Eyes are closed up by the Swelling; the Patient breathes with Difficulty; the Nostrils and Fauces are parch'd and dry; a Torpor and Drowsiness generally accompany this Species of Erysipelas; and, upon account of its Vicinity to the Brain, 'tis to be dreaded, lest it degenerate into a Phrenitis, or a mortal Lethargy. When an Erysipelas affects the Breasts, these become tumid, often indurated like a Stone, exquisitely painful, and a Suppuration easily ensues. An Erysipelas appearing under the Armpits, and affecting the Glands lodg'd there, is attended with a most intense Pain, and generally terminates in an Abscess. This Disorder in Infants frequently appears in the umbilical Region, and spreading thence over the Abdomen, produces violent Symptoms, and generally proves mortal.

There is a particular Species of Erysipelas not very common among the Moderns, and but little adverted to by the Antients, call'd by *Pliny Zoster*, and among us the *Girdle*, or *Shingles*. This discovers itself by violent Symptoms, and above the Navel spreads from the Præcordia round the Back like a Belt, for the most part, a few Inches broad, with an intense Heat, and highly acrid Pustules, which burn, as it were, like Fire. This Species is of a pernicious, and sometimes of a mortal Nature. But the most malignant Species of all is that, which after a great Languor of the Strength appears in old Persons, and such as are of highly cacochymic Habits, sometimes, also, in malignant and pestilential Fevers, under the Nipples, and on the Region of the Heart, or even on the Hands, and other Parts possess'd of a more exquisite Sensation. This Species is, at first, of a livid Colour, and, afterwards becoming black, is soon succeeded by Gangrene and Death. *Platerus* has describ'd it under the Name of *Macula lata*.

As for the Causes of this Fever: The material Cause does not at all seem to be of a simple, bilious, or saline, but rather of a caustic, acrid, and putrefying Nature; for it operates in a very violent manner, on the nervous Parts; surprisingly disturbs the Economy of the animal Functions, and induces Watchings, Deliriums, Restlessness, Anxiety, Tossings, Vomitings, and a Disorder of the Senses. It is still more formidable, when the Matter returns backwards after it has been once expell'd, since in this Case, like as much Poison, it soon excites Deliriums, internal Inflammations, convulsive Asthmæ, and spasmodic Strictures, which often prove mortal. Besides, the Gangrene and Sphacelus, which readily succeed an ill-treated Erysipelas, are sufficient Proofs of the virulent Quality of the Matter which produces it: But whence this Matter draws its Origin, is not so easy to determine; I am, however, inclin'd to think, that it consists of Bile corrupted, and render'd peccant by various Causes; which, stagnating long in the Flexure of the Duodenum, and there putrefying together with the pancreatic Juice, and assuming a caustic and acrid Quality, is thence gradually convey'd to the Mass of Blood, and Membranes of the Brain and spinal Marrow, indisposes the whole nervous and vascular Systems, and excites a Fever, till it is at last driven out to the Surface of the Body.

Persons of sanguine, sanguineo-choleric, and plethoric Habits, young Persons, Men, and pregnant Women, are more dispos'd than others to generate this Matter of the Erysipelas,

which in them, however, is generally of a pretty mild Nature: But in old Persons, those of a scorbutic or cacochymic Habit, as also in Women labouring under a total Suppression, or an undue Retention, of the Menfes, it is of a far worse Kind: Those, also, are frequently and easily obnoxious to this Disorder, who are born of Parents subject to it; as also those, who, having been once seiz'd with it, have had frequent Returns of the Misfortune; and more especially if they are old, or of scorbutic Habits. I myself, says *Hoffman*, have observ'd an Erysipelas returning every Year, every Equinox, and also every Month: But, with respect to these, especially in old Persons, and those of cacochymic Habits, I have observ'd that Aphorism of *Hippocrates* verified, where 'tis said, that such as are often seiz'd with an Erysipelas, are at last destroyed by it.

But there are several of the Non-naturals, capable of unfolding and bringing this latent material Cause of an Erysipelas into Action: But the most considerable of these are violent and exorbitant Passions, especially Anger and Dread. Thus *Fallopian* furnishes us with an Instance of a Woman, who, every time she was vex'd, began to be seiz'd with an Erysipelas, which was easily discuss'd by drinking Barley-water. The Matter of an Erysipelas is also put in Action by a too hot Atmosphere, an intense Heat of the Sun, as also by a sudden and alternate Heating and Cooling the Body or Feet: The same Effect is produc'd by hot Aliments, hot Drink, frequent Drinking to Excess, or the Use of too hot Baths. But nothing contributes more to the Production of this Disorder, than the Omission of artificial Evacuations of Blood, whether by Scarifications, or Venesection, and the Suppression of the natural Evacuations, whether from the Nose, the Uterus, or the hemorrhoidal Veins. An Erysipelas of the Head, in a particular manner, happens most frequently to those who remain long, especially in the Night-time, under a moist and rainy Air, as also to old Persons. This Disorder frequently appears in the Breasts of Child-bed Women, especially if giving Suck, after any violent Fright; in which Case the Discharge of the Milk is forthwith stop'd, and the Breasts become hard, and are render'd tumid by the coagulated Milk. *F. Hoffman*.

The Causes of an Erysipelas are the same with those of all other Inflammations: But none have a more powerful and immediate Tendency to produce it, than a sudden Cold, contracted after immoderate Heat, or profuse Sweats; an obstructed Perspiration, Surfeits, the habitual Use of too strong and generous Liquors, or a too hot and acrid State of the Blood; for all these things are of such a Nature, that they easily inspissate and coagulate the Blood, in such a manner as to produce Stagnations of it. *Heister*.

When an Erysipelas breaks out soon, and without any violent Commotion; when the Juices of the Body are not highly corrupted; when the Part affected by it is not of the more noble Kind, or does not communicate with nervous Parts, it is not highly dangerous: But by a free Perspiration, and the Use of proper Remedies, the Tumor, after a Day or two, gradually subsides, the Heat and Pain vanish, the ruddy Colour is chang'd into that of yellow, the Skin breaks, is separated in the Form of Scales, and the Disease has an agreeable Termination put to it. An Erysipelas is, sometimes a salutary Sign; and I myself, says *Hoffman*, have known Diseases, especially convulsive Asthmas, and convulsive Colics, happily remov'd by a supervening Erysipelas.

But when an Erysipelas is large and deep, when the Juices of the Body are highly impure, or the Part affected possess'd of an exquisite Sensation, the Disorder is not without Danger; for, in this Case, either the redish Colour become livid and black, and soon degenerates into a fatal Sphacelus; or the Inflammation, becoming incapable of Discussion, is suppurated, and induces malignant Ulcers, Fistulas, and a Gangrene. After an Erysipelas, in sanguineo-phlegmatic and cacochymic Habits, there sometimes remains a violent Swelling of the Feet, so that the Legs appear three times as large as in their natural State; and this Swelling is not, without great Difficulty, remov'd: But those who die under this Disorder, are cut off by a Fever, which, for the most part, is accompanied with a difficult Respiration, sometimes with a Delirium, sometimes with a Drowsiness; and generally the fatal Catastrophe happens within the seventh Day.

An Erysipelas, when preposterously treated, also, terminates in an unlucky manner; for 'tis an old and true Observation made by *Hippocrates*, in the twenty-fifth Aphorism of his sixth Section, that if the Matter is repel'd, the Disease is not only pernicious, but fatal, which it frequently proves. I myself, says *Hoffman*, knew an Erysipelas, retiring inwards after a Vomit, and a drastic Purgative, succeeded by an Inflammation of the Stomach, and Death: I have also, says he, observ'd the Matter driven inwards by Venesection, and the Disease afterwards render'd erratic, and more troublesome than before. I have also, says he, observ'd, that an Erysipelas repel'd in the Legs, by Camphire, Minium, and Bole, has been succeeded by an intense Fever, an intolerable Pain of the Stomach, and difficult Respiration, bilious Vomiting, Languor of the

Strength, Loss of Appetite; and that these Symptoms did not cease, till antispasmodic and gently diaphoretic Medicines were exhibited, and the Matter of the Erysipelas was recal'd, by a Vesicatory, to its former Seat. I have known, from Experience, that the treating an Erysipelas of the Head with Repellents, cold Medicines, Astringents, too spirituous Substances, and camphorated Liniments, has brought on Vertigos, lethargic Disorders, Quinsys, a Phrenitis, and Palsies of the Tongue; which Disorders have frequently prov'd mortal to old Patients, and such as were of scorbutic Habits: Cold Medicines, Preparations of Lead, oleous Substances, spirituous Liniments, and Medicines richly camphorated, when apply'd externally, produce equally unlucky Terminations of erysipelatous Disorders, since they make them degenerate into malignant Ulcers, Gangrenes, and Sphacelus; as is confirm'd by several Instances given by *Hildanus*, Cent. 1. Obs. 82. *Moinichen*, Obs. 2. and *Timæus a Guldenkle*, Lib. 6. Case 33. *Frederic Hoffman*.

With respect to the Termination of this Disorder, 'tis to be observ'd, that it is accompanied with no great Danger, if the Inflammation is only slight, and proper Measures of Relief are seasonably pursu'd: On the contrary, when the Inflammation is violent, the Constitution infirm, the Regimen faulty, the Part affected expos'd to the Cold, and the Cure negligently or unskilfully manag'd, 'tis not to be wonder'd at, if it should terminate in a burning Fever, a violent Exulceration, a Gangrene, or a Sphacelus. In this Disorder, the external Application of such Medicines as are cold, pinguious, or oleous, as also the internal Use of generous Liquors, Wine, Brandy, or hot Medicines, are productive of the most imminent Danger. *Heister. Chirurg.*

The most judicious Method of curing an Erysipelas consists in pursuing these three Intentions: First, that the febrile Motion of Nature be by no means hinder'd, but rather promoted, if it is defective; and brought to a due Temperament, if it is excessive. Secondly, that the subtil caustic Matter lodg'd in the nervous Parts be corrected, and prepar'd for Secretion and Excretion: And, thirdly, that the inflammatory Stagnation of putrid and caustic Lymph in the external Parts be discuss'd and perfectly expel'd.

Among the Remedies which excite and promote the febrile Motion of Nature when languid, the most considerable are, the *Mixtura simplex*, mix'd with the *Spiritus Nitri Dulcis*, or rather with the anodyne mineral Liquor, or the Essence of Germander or white Burnet, not very spirituous and concentrated, mix'd with an equal Quantity of the anodyne mineral Liquor, and twenty or thirty Drops exhibited for a Dose: The Expulsion is, also, assisted by an Infusion prepar'd of Germander, Elder-flowers, and Fennel-seeds, as also by Bezoardic Powders. The excessive Commotions and Spasms are mitigated by an Emulsion prepar'd with the Waters of the Flowers of Elder, the Lime, and the *Egyptian Thorn*, together with the Four greater cold Seeds, as also the Seeds of the *Napus Dulcis*, especially when us'd as a Vehicle, with which the Bezoardic Powder, either alone, or with a few Grains of Nitre and Cinnabar, may be taken. The same Effect is produc'd, and the Expulsion promoted, by a Mixture prepar'd of one Part of the Bezoardic Spirit of *Bussius*, and three Parts of the anodyne Liquor. When the febrile Motion is of the legitimate Kind, and neither too languid nor too impetuous, the following domestic Remedy is of excellent Service:

Take of the Rob of Elder, one Ounce; and of calcin'd Hartshorn, one Dram: Mix together, and exhibit in Elder-flower-water.

To this Preparation, when the Patient is very hot, I generally add, with Success, ten or twelve Grains of pure Nitre.

In order to correct the Acrimony of the Humours, and duly prepare the Matter, besides the Medicines already mentioned, Decoctions of the Shavings of Hartshorn, the Roots of Vipers-grass, Marsh-mallows, Liquorice, and China-root, with Fennel-seeds, as also Water-gruel, us'd as ordinary Drink, are of singular Service. The Discussion of the inflammatory Stagnation is to be obtain'd by Topics: But, among these, scarcely any can be applied without Danger, except a Powder prepar'd of Elder-flowers and Liquorice-roots, now-and-then sprinkled on the Part, when it is moderately warm, either in Bed, or by means of a Stove. But all unctuous, spirituous, earthy, astringent Substances, as also all Preparations of Lead, are absolutely to be reject'd.

'Tis a perpetual Rule in Practice, that in Fevers of the acute and exanthematous Kind, the Body is always to be preserv'd in a mild and continual Diaphoresis, that by this means the Motion of the Blood to the Surface of the Body may be render'd equal, and the recrementitious Matter, being continually carried along with it, dissipated, and carried through the Pores: Hence the same Rule is to be observ'd in an Erysipelas, both with respect to the whole Body, and more especially the Part affected; that by this means the Pain may be mitigated, and the Discussion of the Matter the better promoted.

Great Caution is necessary in the Use of external Medicines, lest they should prove injurious, either by repelling or converting the Erysipelas to an Ulcer: Besides, as almost every Person has an Idiosyncrasy, or specific and individual Sensibility, especially in the Skin and nervous Parts, we are, for this Reason, to be highly cautious in the Application of Topics; because every Remedy is neither suited to every Person, nor to every Part of the same Person; for I have often observ'd, that in an Erysipelas of the Breasts, by applying an innocent, and in other Cases an approv'd Plaister, the Inflammation and Pain have been soon increas'd, tho' both forthwith remitted upon the Removal of the Plaister: Hence 'tis safest to apply nothing externally, except, perhaps, paregoric Species, consisting of the Flowers of Chamomile, Elder, and Melilot, Liquorice-root, and Bean-meal, either in the Form of a Bag, or a Powder.

If notwithstanding the Exhibition of internal, and the Application of external Discutients, tho' of an highly efficacious Nature, the erysipelatous Tumor should still remain, the red Colour begin to turn livid, and the Pain be lodg'd deep, as if it reach'd to the Periosteum; the Erysipelas has a Tendency to Exulceration: In this Case we are to have recourse to such Medicines as promote Suppuration, at the same time that they prevent putridous Corruption. This Intention is excellently answer'd by simple Diachylon duly prepar'd, adding a sufficient Quantity of Camphire and Saffron, or by the Emplastrum Saturninum of *Barbet*, made up with Soap, applying over them such balsamic Epithems as prevent Corruption: When Pus is contracted and deep-seated, the Tumor is to be open'd with a Lancet, and the Pus to be evacuated gradually, and not all at once: But lest the Abscess, especially in glandulous Parts, should degenerate into fistulous and malignant Ulcers, after the Evacuation of the Matter, a balsamic Liquor prepar'd of the Tincture of Flowers of St. John's-wort, Essence of Peruvian Balsam, the best Myrrh, and a few Drops of the Spirit of Turpentine, is to be injected.

When a deep and large Erysipelas is threaten'd with a supervening Sphacelation, which may be known by the brownish-red Colour, and the Continuance of the Symptoms after the Expulsion, besides such internal Medicines as resist Inflammation and Putrefaction, Nitre with a little Camphire, spirituous and corroborating Liquors prepar'd of Quick-lime-water, camphorated Spirit of Wine, Wine Vinegar with Litharge mix'd with the Essence of Germander and Myrrh, are to be frequently apply'd warm with folded Linen Cloths externally.

Venesection is sometimes beneficial, and sometimes hurtful, in an Erysipelas. Lest, therefore, the Practitioner should commit a Mistake in this respect, 'tis to be laid down as a Rule, that when an erysipelatous Fever seizes Persons of a plethoric Habit, or such as are accusom'd to drink spirituous Liquors, a Vein is to be open'd in the Arm in the Beginning of the Disorder; for by this means the Circulation of the Blood becomes more free, and the Expulsion of the Matter to the Skin is promoted. This Practice is so much the more useful when an Erysipelas seizes the Head, since by its means violent Symptoms are prevented. 'Tis sometimes expedient, instead of Venesection, to use Cupping with Scarification in the Neck. But, after the Evacuation of Blood, we are always to be careful, that Perspiration be kept free and equal.

In a scorbutic Erysipelas of long standing we are to use such Medicines as purify the Blood, gentle Laxatives, and Diaphoretics, in such a manner, that during a few Days the Intestines may be purg'd: Then, for some time, Diuretics and Diaphoretics are to be subjoin'd; and these are to be alternately repeated, whilst for common Drink the Patient uses a correcting Decoction, prepar'd of mucilaginous Woods and Roots, with Bitters, but especially with the Roots of Succory and Dandelion, together with Raisins.

An Erysipelas which often recurs, is not without Danger; for which Reason the Physician is to be highly solicitous to free the Body from this Disorder. For obtaining this End, I have found nothing more effectual than a due Use of mineral Waters, in Conjunction with a proper Regimen, after the Body has been previously prepar'd, either by Laxatives or Venesection. This Intention is best answer'd by the Aciduke of *Egra*, the hot Waters of *Embsen*, and the milder *Caroline* Springs: When these cannot be had, Venesection, especially in the Spring and Autumn, Purging, and such Medicines as purify the Blood, together with a proper Regimen, are the most effectual Means of Relief. *Frederic Hoffman*.

The Cure of an Erysipelas is most successfully and happily attempted by diluting the inspissated, and resolving the stagnating Blood; which Intentions are most effectually answered by a frequent Exhibition of thin warm Sorbitions and Potions, by which a gentle and uninterrupted Sweat is excited: For by this means the inspissated Blood is diluted; that which is acrid, corrected; that which is coagulated and stagnated, resolv'd; and that which is superfluous, or corrupted, eliminated by the small cutaneous Emunctories; and consequently a natural Perspiration, the most safe and effectual Cure of an Erysipelas,

restor'd. Heating Medicines of all Kinds, especially the Tinctura Bezoardica, the Spiritus antipestilentialis, and other Spirits of a like Nature, as also strong and heating Essences, are, in my Opinion, says *Heister*, to be totally abstain'd from in this Disorder; since by these the Heat of the Blood is, generally, rather increas'd than diminish'd. On the contrary, we may with greater Propriety, Safety, and Efficacy, use temperating and moderately-cooling Medicines; the most valuable of which are, in this Case, Preparations of Elder: Thus 'tis expedient frequently each Day to exhibit half an Ounce, or a Spoonful, of the Rob of Elder, diluted with Elder-water, drinking at the same time a few Cups of Tea, Coffee, or an Infusion of some proper Herbs: The Body is also to be carefully defended against the Influences of the Cold, and continually kept in a mild and uninterrupted Sweat. When the Patient is rack'd with a violent Thirst, a Decoction of Barley, or warm small Beer, may, with great Advantage, be exhibited; since by Warmness, and Draughts of thin diluting Liquors, the Disorder is most generally remov'd, and the Patient sav'd. If Rob of Elder should happen to be ungrateful and disagreeable to the Patient, in order to promote a gentle Sweat, we may choose for a Succedaneum, or at least for a Medicine to be exhibited alternately with it, some diaphoretic Powder prepar'd of Shells, Crabs-eyes, and Mother of Pearl, or diaphoretic Antimony, or any other Medicine of a like Quality, mix'd with a small Quantity of Nitre, and exhibited in Elder-water, not neglecting at the same time the liberal Use of warm, thin, and diluting Potions.

When, in an Erysipelas, the Inflammation is very mild and gentle, it may be often remov'd only by external Warmth: But, if the Inflammation should happen to be more violent, external Heat alone is not sufficient, without the Concurrence of proper Topics: Rob of Elder may, therefore, be spread on coarse Paper, or a Piece of Linen Cloth, and apply'd to the Part affected with warm Linen Cloths, or a Bag fill'd with resolvent Ingredients over all. But this Medicine, as well as the Theriaca, mix'd with Salt of Wormwood, tho' highly efficacious in mitigating Inflammations, are yet rarely us'd in Cases of this Nature, on account of the Sordes and Impurities they contain: For this Reason the digestive Powders are far more frequently us'd: Among these, the most valuable and effectual seems to be that prepar'd of Elder-flowers, triturated Liquorice, prepared Chalk, Ceruss, and Myrrh, mix'd in equal Quantities, wrapt up in coarse Paper, or a Linen Cloth, and apply'd warm to the Part affected; after which, the Whole is to be cover'd with proper Bags, or Cushions: To this we may add, the *Pulvis contra Erysipelas Mysiciti*, (See *PULVIS*) which is not only well-known in the Shops, but also highly efficacious for answering Intentions of this Nature. 'Tis not necessary I should here insist upon the singular Virtues of the middle green Bark of Elder, in mitigating and allaying Inflammations, since the Efficacy of that Substance, in Cases of this Nature, is long ago experimentally known to most Persons.

Tho' some Authors in the Cure of an Erysipelas pronounce liquid Medicines highly preposterous and improper, yet I myself can from Experience affirm, that in the Cure of this Disorder excellent Effects are produced by warm and camphorated Spirit of Wine, either by itself, or mix'd with Saffron, or the Theriaca, and apply'd with a folded Linen Cloth, or coarse Paper, as also by Quick-lime-water, mix'd with camphorated Spirit of Wine, and apply'd in the same manner. *Scultetus*, in *Observat.* 93. affirms, that he never found a more effectual liquid Remedy, than the following, against an Erysipelas, complicated with an Oedema.

Take of a mild Lixivium of the Ashes of the Vine, one Pound; of Nitre, one Dram and an half; of common Salt, one Dram; of the best Wine-vinegar, one Ounce: Mix all together.

After the previous Use of Universals, this Mixture is to be apply'd warm to the Part affected, with a double Compress, which is to be secur'd with a proper Bandage: When apply'd in this manner, it remarkably dissolves Swellings of this Kind, even when a Gangrene is endanger'd. But all other liquid Medicines, which are either too acid, or of an obstrueting and astringent Quality, together with pinguious and oleous Substances, are, in this Case, to be carefully avoided; for 'tis scarce credible how powerfully these obstruct the Pores, hinder the Elimination of the peccant Blood thro' them, and consequently expose the Patient to more imminent Danger.

Venesection and Purging do not seem so necessary in an Erysipelas, as in a Phlegmon; for, as in an Erysipelas the peccant and corrupted Humours are lodg'd contiguous to the Skin, they are most commodiously expel'd by a gentle Diaphoresis; However, when the Pulse is too violent, and the Patient either preternaturally hot or plethoric, Venesection is by no means improper; and, in order to render the Body soluble, Clysters are rather to be us'd, than Purgatives of any other Kind.

It frequently happens, that an Erysipelas terminates in a Suppuration; and hence generally arise chronical and wide-spreading Ulcers. If a Misfortune of this Nature should happen, the Ulcer is carefully to be cleans'd, and the Acrimony of the Serum corrected by Applications of the *Unguentum Saturninum*, the *Unguentum de Lithargyrio*, or the *Unguentum de Cerussa*, together with the *Emplastrum Saturninum*. 'Tis also expedient to use such internal Medicines, as purify and correct the Blood; exhibiting now-and-then, in the Intervals, such as eliminate the acrid Humours by Stool: A strict and exact Regimen is also to be us'd, till these Ulcers are conglutinated; tho', at the same time, in old, valetudinary, and cachectic Patients, they scarce admit of Consolidation, especially when arising in the Legs and Feet. *Heister. Chirurg.*

In order to the Cure, I conceive that the peccant Matter, which is mix'd with the Blood, must be evacuated in a proper manner, that the Ebullition of the Blood must be check'd by cooling Remedies; and, lastly, that the Matter, thrown out and fix'd upon the Skin, must be dissolved. To answer these Purposes, as soon as I am call'd, I direct a sufficient Quantity of Blood to be taken away from the Arm, which generally resembles the Blood of Pleuritics: The next Day, I give my common purging Potion, and exhibit a paregoric Draught at Bed-time, in case it has operated briskly; for Example, Syrup of white Poppies, in Cowslip-flower-water, or something of the same kind. After Purging, I order the Part affected to be fomented with the following Fomentation:

Take of the Roots of Marsh-mallows and Lilies, of each two Ounces; the Leaves of Mallows, Elder, and Mullein, of each two Handfuls; the Flowers of Melilot, the Tops of St. John's-wort, and the lesser Centaury, of each one Handful; Linseed, and Fenugreek-seed, each half an Ounce: Boil them in a sufficient Quantity of Water to leave three Pints; strain off the Liquor, and, when 'tis used, add two Ounces of Spirit of Wine to every Pint thereof. Let the Part affected be fomented twice a Day with soft Flannels dipt in this Fomentation hot, and wrung out; and, after fomenting, bathe it with the following Mixture:

Take of Spirit of Wine, half a Pint; Venice Treacle, two Ounces; long Pepper and Cloves, reduced to Powder, of each two Drams: Mix them together; cover the Part affected with brown Paper, moistened with this Mixture.

Moreover, I order the Patient to sup only Barley-broth, Water-gruel, and eat roasted Apples, to drink small Beer, and to refrain from Bed some Hours every Day. By this Method the Fever, and other Symptoms, are generally soon taken off; if not, I repeat Bleeding; and sometimes 'tis necessary to bleed a third time, interposing a Day between each Operation, that is, if the Blood be greatly vitiated, and the Fever high. On the intermediate Days of Bleeding, I order Glysters made of the distilled Waters of Water-lilies, &c. to be used very often in a Day. But a single Bleeding, and a Purge, generally effect the Cure, provided they be used in time. The same Method is to be used in that Species attended with Itching and a Redness, and resembling the Stinging of Nettles; only external Applications are less necessary here. *Sydenham.*

In an Erysipelas of the Head, which is a highly dangerous Disorder, when the Fever does not abate, Purgatives are so surprisingly beneficial, that sometimes the Cure cannot be obtain'd without their Assistance. Tho' this Disease has been handled at great Length by several Authors, and especially by *Hieronymus Fabricius*, yet all of them are so far from being distinct and intelligible with respect to the Use of Purgatives in the Violence of the Fever, that they are not only dissent of their own Sentiments, but also vary and dissent from each other, since some do not approve of Purgatives, except when the Body abounds with Bile, and the Disorder is violent; whilst with *Tragavius*, in *Instit. Chir. Lib. 1. 8.* they maintain, that the Physician, instead of evacuating, ought rather to refrigerate. Others, who agree in the Propriety both of Evacuations and Refrigeration, do nevertheless, with *Paré de Tumor. Lib. 6. 15.* maintain, that greater Relief is obtain'd by Sweats than by Purging. Others, who grant that Purgatives may properly be exhibited, yet assert, that when the Fever is so intense as to bring on a Delirium and Phrenitis, we ought rather to prescribe such Medicines as resist Malignity; and that we are not to exhibit Purgatives till the febrile Heat is extinguish'd; or, at least, that if Purgatives are at any rate to be us'd, Preparations of Scammony are absolutely to be avoided, lest they should increase the Fever. *Sennertus* tells us, that as this Disorder is highly familiar and endemial to the *Germani*, so we may more safely take the Methods to be observ'd in its Cure from the Experience and Practice of the *Germans*, than from the Works of Physicians of other Nations. But *Sennertus*, tho' himself a *German*, borrows most of what he

says on an Erysipelas, from *Fabricius an Italian*, but suppresses the Directions of that Author with respect to Purging, when the Increase of the Disease is at an End. *Ettmuller*, who was also a *German*, in his *Medic. Chirurg.* informs us, that, when an Erysipelas seizes the Head, the Cure is to be accomplish'd by internal Sudorifics and Cephalics, but that Purging of every Kind is to be carefully abstain'd from. Thus, when the Disorder is in its most dangerous State, Authors have either given no Directions at all with respect to its Treatment, or such as are full of Cowardice and Hesitation; as if it was consistent with Reason, and common Sense, for a Physician to be less bold and hardy, when his Patient's Life is in the most imminent Danger, than when there is not the least Suspicion of Danger.

But I can from Experience affirm, that in an Erysipelas of the Head, when the Brain being affected, a Coma, a Delirium, or Convulsions are brought on, there either remain no Hopes of the Patient's Recovery, or the most happy Effects will be produc'd by Purgatives. Nor are we in this Extremity, which also holds true in the Small-pox, to wait till the Fever is abated, or the Tumor quite subsided; for to encounter this Species of Fever with cardiac and refrigerating Medicines, or to apply Topics, is only to trifle, till at last the Patient falls a Sacrifice to the Physician's Cowardice or Folly. If, therefore, Purging is capable of removing this Disorder, when arriv'd at its most dangerous State, the same, sooner call'd in to the Patient's Assistance, must, *a fortiori*, prevent its Progress and Spreading. As a Confirmation and Illustration of this Truth I shall subjoin the following singular History.

A young Lady of uncommon Distinction had her Face swell'd by an Erysipelas. The Disorder was, as usual, preceded by a gentle Horror, and a slight Fever. Next Day, not only her Face, but also the Skin about her Ears and Neck, was become turgid and red. The Fever increas'd, and the Patient was somewhat delirious at certain Intervals. In this State of things a Veficatory was apply'd to the Nape of her Neck.

Notwithstanding this Step for her Relief, the Swelling became very large, and as it was intensely red, appear'd to be an Erysipelas of that Kind, which *Fabricius*, in Imitation of *Galen*, calls *Phlegmonodes*; for, according to this Author, an Erysipelas of the simple or uncomplicated Kind is scarce ever to be found in the Face. Towards Night the Patient became quite delirious. Mr. *Burges*, the Apothecary, in the mean time, apply'd Veficatories to her Arms, and injected Clysters, which were discharg'd without any Advantage, since all the Symptoms were exasperated, instead of being abated.

When I first saw her, which was in the Afternoon, her Delirium was very violent, and accompanied with a Fever: She spoke a great deal, but all her Words were incoherent and impertinent: Sometimes she lay, as it were, like one in a Lethargy, and was now-and-then seiz'd with Convulsions, especially about the Hands and Shoulders: The Swelling remained almost in the same State and Condition, only its Redness was somewhat abated: Her Pulse was rather quick than strong. I therefore order'd a Veficatory to be apply'd to each Side of her Neck; and I am much surpris'd to find no mention of this Piece of Practice in the Authors already quoted, especially as Veficatories are of singular Efficacy in this, if in any Species of Disorder whatever. But because she seemed to be in the most imminent Danger, and because I concluded, that Veficatories alone would not be sufficient, unless another Means of carrying off the peccant Matter was also called in to their Assistance, she had the following Purge exhibited at Three o' Clock:

Take of the *Decoctum Sene Geronis*, three Ounces; of the *Tinctura Sacra* prepar'd with White-wine, one Ounce; and of the purgative Syrup of Buck-thorn, six Drams: Mix all together.

By this Preparation she was not in the least purg'd; for which Reason, about the Middle of the Night, two Ounces of the *Tinctura Sacra* were exhibited to her; notwithstanding which all her Symptoms remain'd the same, only she lay more quiet, or rather more sunk, by the Violence of her Disease; and, being as yet costive, about the Middle of the next Day the following Cathartic was exhibited:

Take of the *Tinctura Sacra*, two Ounces; and of the cathartic Syrup of Buckthorn, one Ounce: Mix together for a Dose.

But neither was she purg'd by this Medicine: Towards Evening Veficatories were apply'd to both her Wrists.

Notwithstanding these Measures, all her Symptoms remain'd the same; only the Heat seem'd to be somewhat abated. Early in the Morning, the last-mentioned Cathartic was again exhibited, and procur'd a very small Evacuation by Stool, which afforded her but little Relief: An acrid Clyster was also, to no Purpose, injected. I order'd the Purgatives to be taken thus successively, because I had intimated, that the Use of this Practice

Practice was not to be given over, till it answered the End; and, if it did not answer the End, there were no other Methods of relieving the Patient. For this Reason, though Purgatives had been four times exhibited to no Purpose, yet I was firmly resolved to persist in their Use; for in this State and Condition of the Disease, as in the Small-pox, the febrile Matter is neither dissipated through the Tumor, nor can it be carried off by any other means, than by making a Way for it through the intestinal Glands.

Accordingly, the State of the Patient becoming still worse and worse, she had the following Medicine exhibited:

Take of the Pilulæ ex duobus, fifteen Grains, dissolved in an Ounce of Treacle-water; and of the purgative Syrup of Buckthorn, half an Ounce. Mix all together for a Dose.

By this Preparation having procured five Stools, she recovered her Senses, but remembered nothing of what had happened during the six preceding Days. The Tumor gradually subsided, and the Fever was so far removed, that, by twice exhibiting the same Cathartic, she was entirely restored to her former State of Health.

This Medicine, a considerable Part of which consisted of Scammony, which is, by most, discarded, as absolutely pernicious in this Disease, freed the Patient from the most imminent Danger; for which Reason, the Assertions of the most skilful and celebrated Physicians are not to be taken for Rules of Practice, unless they have a sufficient Sanction from Experience. *Freind. Comment. in Hippocrat. Epidem.*

Riverius, as a Topic, recommends a Decoction of Sage, with Venice Soap dissolved therein; and an Infusion of Sage sometimes supplies its Place, with the same Soap, and an Addition of a small Quantity of camphorated Spirits.

Turner directs an Application of Oil of Elder shook up with Lime-water, with a little camphorated Spirits. And Ointment of Elder is mentioned, by the same Author, as an excellent Application, which is, also, a popular Remedy among the Country-people. *Turner*, also, in case of Exulceration, recommends his Cerate of Lapis Calaminaris.

An ERYSIPELAS of the LUNGS.

An Erysipelas sometimes affects the Lungs; in which Case the Patient is seized with a highly burning Fever, and an acute Pain, both in the anterior and posterior Parts of his Body, but especially about the Spine; for the Breast is not very violently oppressed and contracted. The Patient, also, breathes with an erect Neck; through an Excess of Heat dilates his Nostrils, like a Horse overheated by running; and, like a panting Dog, hangs his Tongue out at his Mouth. He vomits sometimes a bloody Matter, and sometimes one of a livid Colour; sometimes Bile, and at other times Phlegm. He is also seized with frequent faintings, the common and familiar Sign of this Disorder. His Cough is either dry, or he expectorates a yellow Spit, not much tinged with Blood. This Disorder scarce ever fails to prove mortal; only there is a Possibility of the Patient's being preserved, if the Erysipelas quits the internal Parts, and appears externally. *Commi Medicinal. Observat.*

ERYSIPELATODES, ἐρυσίπελατώδης, from ἐρυσίπελας, an Erysipelas, and εἶδος, a Form, or Likeness. A Tumor, resembling an Erysipelas, or a spurious Erysipelas. *Blancard.*

ERYTHACOS, ἐρυθάκος, from ἐρυθρός, Redness. The same as RUBECULA, which see.

ERYTHEMA, ἐρύθημα, the same as ἑρύθημα in *Hippocrates*. The Redness of the Face, or Cheek, under a violent inflammatory Fever. Ἐρύθημα (Eruthemata) are, also, the red and fiery Tumors which arise from an Inflammation, or servid Blood, as in an Erysipelas.

ERYTHRINUS, ἐρυθρενός, from ἐρυθρός, red. A Fish, called, by *Pliny*, *Rubellio*. The Roach. See RUTILUS.

ERYTHRION, ἐρύθειον, from ἐρυθρός, red. The Name of a Malagma, described by *Agineta*, Lib. 7. Cap. 18.

ERYTHRODANUM. A Name for the *Rubia Tinctorum*. Madder. See RUBIA.

ERYTHROIDES, ἐρυθροειδής, from ἐρυθρός, red, and εἶδος, a Form, is an Epithet of the innermost Coat of the Testes.

ERYTHRONIUM, or ERYTHRAICUM, ἐρυθρόνιον, ἢ ἐρυθροειδές. A Species of Satyrion, in *Dioscorides*, Lib. 3. Cap. 144. See SATYRIUM.

ERYTHROXYLON, ἐρυθρόξυλον, from ἐρυθρός, red, and ξύλον, Wood; a Name for the *Poinciana flore pulcherrima*.

ES. *Johnson* explains this by *Corpus*, Body.

ESAPIE, εσαπί, from εσαπίω, to feel with the Fingers. The Touch; that is, feeling the Mouth of the Uterus, in order to discover its State. *Hippocrates.*

ESCHARA, ἐσχάρα. An Eschar, relative to Wounds, Ulcers, or Caulities. But

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ESCHARA, also, imports a sort of submarine Plant, which grows in form of a Net, or Cobweb.

Boerhaave mentions three Species of this Plant; which are,

1. Eschara Rondeletii, 133. *J. B.* 3. 809. *Rtepora Eschara marina*. Imper. 630. *Porus Reticulatus*; & *Eschara marina*. Imper. C. B. P. 367.

2. Eschara; marina; frondipora. *J. B.* 3. 809. *Frondipora Eschara marina*. Imper. 631. *Frondipora*. Imper. C. B. 367.

3. Eschara; qui Porus cervinus. Imper. 630. *Alga marina* πλάυκεες πορέα. *J. B.* 3. 809. *Boerh. Ind. alt. Plant.* Vol. 1. p. 6.

In medicinal Virtues it resembles Coral.

ESCHAROPEPA, ἐσχαρόπεπα, from ἐσχαρά, a Fireplace, and πείνω, to bake. An Epithet in *Hippocrates*, *Epid. Lib. 4.* for coarse Barley-meal, which has been torrefied over the Fire.

ESCHAROTICA. Escharotics, or Medicines which induce an Eschar.

ESCHIATIE, ἐσχάτια. The Extremities of the Limbs. *Hippocrates.*

ESCHYNOMENOUS. See ÆSCHYNOMENOUS.

ESCULUS. A Name for the *Quercus parva*; *sive Phagus Græcorum*, & *Esculus Plinii*. See QUERCUS.

ESCURA. The same as Eschara. *Rulandus.*

ESDRÆ Antidotus. The Name of an Antidote described in *Paulus Ægineta*, Lib. 7. Cap. 11.

ESEBON, or Alsebon. Common Salt. *Rulandus.*

ESOCHE, ἐσώχη, for ἐξώχη, from ἐξίχω, to protuberate. An Eminence, Excrescence, or Tubercle, about the Anus.

ESPHLASIS, ἐσπλάσις, from ἐσπλάσσω, to recede inwards, is an Intropulsion, or a Recession, of a Part inwards, from some violent outward Impression. The Word is used by *Hippocrates*, *Lib. de l'uln. Capitis*, with and without ἐσα, "inwardly;" and spoken of Wounds in the Cranium, when, as *Celsus* expresses it, *Medium (os) desidet*, & *intro deprimitur*, "the Middle of the Bone subsides, and is depressed inwards."

ESSATUM Potentiale. The medicinal Power, or Virtue, which resides in Vegetables and Minerals. *Rulandus.*

ESSATUM Vinum. Spirit of Wine impregnated with the medicinal Virtues of Vegetables. *Rulandus.*

ESSENTIA. The Essence of any thing; it is that which distinguishes it from every other thing. From Philosophy the Word has been transferred to Chymistry, where it seems thieftly to import the Essence, or distinguishing Part, of medicinal Simples, separated from all other Parts of the Body which contained it. Hence

ESSENTIALIS. Essential. An Epithet for Salts procured from vegetable Juices by Crystallization. I have given an Example of the Manner by which these Salts are procured, under the Article ACETOSA.

The Process, however, may be performed upon the Juice of any other succulent Vegetable; but a different Salt will be always produced, according to the different Nature of the Plant employed. If the Juices were either manifestly and purely acid, or acid with some Degree of Austerity, the Salt will resemble the Tartar of acid austere Wines. If a perfectly succulent Plant were chose, and neither acid or oily, as many medicinal ones are, the Salt will be of another particular Nature, perhaps, resembling Nitre. Such a Salt is afforded by Brooklime, Endive, Fumitory, Dwarf-elder, Grass, Knot-grass, Plantain, Self-heal, Succory, Water-cresses, Water lilies, &c. Whence the Juices of these Plants are greatly medicinal, as abounding with this Kind of nitrous Salt, so as to open inveterate Obstructions, resolve the black bilious Juice, and cure chronic Diseases. But when the viscous Juices of Vegetables are used in this Process, as those of Purslain, Comfrey, or the like, their Salt cannot be obtained without a previous Fermentation, to dissolve their Tenacity. In like manner, all the Juices abounding with Oil are unfit for this Purpose; for though they contain a Salt, yet it is so entangled with the tenacious Oil, as to prevent its uniting with the Particles of its own Nature, and forming Crystals; for Oil always prevents the Crystallization of Salts; and, again, Plenty of Oil occasions a Loss of Salt, and *vice versa*, as well in Animals as Vegetables; on which account those Salts are not easily obtained from such aromatic Plants as abound with Oil and Balsam.

Hence we learn the Nature of the Salt, thus obtained, as it is in Plants. It is soluble in Water, compounded of Oil and Salt, frequently acid, and never alkaline; for when it is alkaline in the Boiling and Inspillation, it is moderately fixed, and easily changed; it mixes with the Juices, and enters many of the fine Vessels of the Body, where, therefore, it may exert its Virtue. When dried, it, in some measure, burns in the Fire, and is convertible into a fixed alkaline Salt. *Boerhaave's Chymistry.*

The Oils, also, peculiar to different Vegetables, are called Essential Oils. See OILUM.

Some Fevers are, also, called Essential, by way of Distinction from symptomatic Fevers.

ESSERE. This is a Species of Tumor, not mentioned by the *Greek* and *Latin* Authors, but only by the *Arabians*, who call it *Effere*, *Sora*, and *Sare*. It frequently occurs in several Parts of *Europe*, and appears by the sudden Eruption of small Tubercles, of a redish Colour, all over the Body, and accompanied with an uncommon Itching, just as if the Patient had been stung by Bees, Wasps, or Gnats, or by Nettles. But soon after these Tubercles disappear, and no Ichor, or Moisture, being conveyed to them, the Skin recovers its former Smoothness. Some class these Tumors among the *Epinyctides* of the *Greeks*, but very improperly, since the *Epinyctides* and *Essere* are Tumors of a quite different Nature; for the former discharge an Humour from them; which the latter do not, but disappear without the Discharge of any Humour. Besides, the *Epinyctides* afflict the Patient principally in the Night-time, from which Circumstance they derive their Name; whereas the *Essere* rarely appears in the Night-time, but, for the most part, in the Day. These Tumors, also, require a different Method of Cure.

It is to be doubted, whether this Kind of Tumor was known among the *Greeks*, since no legitimate Species of it is mentioned in their Writings, unless we refer it to exanthematic Eruptions without Exulceration.

Serapion, in the eighth Chapter of his *Breviarium*, constitutes two Kinds of this Tumor, according to their different Causes. The one proceeds from a bilious Blood, and the other from a saline nitrous Phlegm; but this latter occurs more rarely than the former. Since no Moisture is discharged, others affirm, that this Species of Tumor arises from Vapours of an intensely hot Blood, or from a Mixture of bilious and saline Humours.

The Man who is acquainted with the Nature of serous Humours, cannot deny but such Tumors may be produced by them, since they are acrid, moveable, and capable of being easily dissolved. This is also confirmed by another Circumstance, which is, that by Venesection, which powerfully checks the Effervescence of the serous Part of the Blood, this Disorder is removed: But that this serous Humour is of different Qualities, sometimes mild, sometimes acrid and hot, sometimes thin, and sometimes thick, is sufficiently obvious from the Itching, which is sometimes greater, sometimes less. This is also certain from this Circumstance, that I have often observed, that these Tubercles arise when the Patient is in a warm Bed; and disappear when he is exposed to a cold Air: That at other times they rise in a cold Air, and disappear in one that is warm. The former of these Phenomena seems to be produced for this Reason, that the Humour is highly fine and moveable, and, consequently, capable of being forthwith drove inwards, by the cold Air: Whereas the latter seems to be owing to this, that the Humour is not so moveable and fine, but somewhat thicker, and, consequently, cannot transpire in a cold Air, though it is capable of doing so in a warm Atmosphere.

This serous and thin Humour is, for the most part, generated by some Disorder of the Liver, which by some preternatural Cause is disposed to generate this Humour. But this Humour is put into a State of Effervescence, by the procatartick Causes which agitate the Mass of Blood. This Disorder is also more frequent in Winter than in Summer, in cold than in hot Climates.

This Disorder is easily known by the Marks above laid down; for it is sometimes preceded by a spontaneous Lassitude, after which, itchy Pustules appear over all the Body, as if the Patient was stung by Bees, or pricked by Nettles.

These Tubercles, in a short time, and without any Care, spontaneously disappear, without coming to Suppuration, or discharging any Matter. And, if this last Accident should at any time happen, it is rather owing to the Scratching, on account of the violent Itching, than to the Nature of the Tubercles themselves.

Sometimes the Effere precedes bilious Fevers; and they who are frequently afflicted with this Disorder, ought not to neglect its Cure, lest they should fall into Fevers, or some other violent Disease.

In the Cure of this Disorder, there is, for the most part, no Necessity for Topics; but if, by Venesection, and the Exhibition of Alteratives, the Heat of the Blood is abated, the Tubercles disappear, and the natural Colour and Smoothness of the Skin return. The first Step to be taken is, to open a Vein, and take away as much Blood as the State of the Patient requires. After this, if it is found necessary, the bilious and serous Humour is to be evacuated by Pamarinds, Myrobalans, and Rhubarb. After this, let the Juices and Syrups of Pomgranates, red Currants, and unripe Grapes, as, also, Whey, four Milk, and Emulsions of the Four cold Seeds, be exhibited. The Patient may, also, be immersed in a Bath of tepid Water; and the Diet ought, in this Disorder, to be refrigerating and moistening. *Sennert.*

ESSODINUM. A certain Prefage of a future Event, drawn from the Signs which indicate it. *Rulandus.*

ESTHOMENOS, ἐσθόμενος, from ἐσθίω, to eat. De-

pascent, eating, corroding: An Epithet for some Sorts of spreading Ulcers.

ESULA. A Name for several Species of the *TITHYMALUS*, which see.

ESULA INDICA. Bont. 153. Raii Hist. 1. 873. *Esula Indica Bontii*, frve *Euphorbia affinis Indica Sedi folio*. Hist. Oxon. 3. 345. *Tithymalus Orientalis arborefcens, triquetrus spinosus, Talukghaba*. Herm. Mus. Zeyl. 56. *An Daluk. Esula Indica*. Ejusd. 67?

Of the Juice of the *Esula Indica* is prepared an Extract, which is of good Service in the Cachexy, Dropsy, Palsy, and other cold and stupid Diseases.

The Plant which produces the yellow Tear, corruptly called, in our Shops, *Gutta Gemou*, differs not at all from the above-mentioned in Form, or Manner of Growth: But we are to observe, with Dr. *Sydenham*, that there are two Sorts of *Gutta Gumma*, or *Gutta Gamba*, sold by the Merchants, which are, the common Sort, collected from a Plant, nearly resembling the *Esula Indica*, and called, by the *Indians*, *Lonan Cambodia*; and another, which is the best, and distils from a Tree in the *East Indies*, called *Codampulli*, and *Carcapuli*, or *Kanna Ghorika*. Dale.

The *Lonan Cambodia* is so called, because it is produced in *Cambodia*, a Country near *China*, famous, also, for Plenty of hepatic Aloes. This Juice is much safer taken prepared, than crude; for in the Preparation it deposite, in a great measure, its emetic and antistomachic Quality. The Way of preparing it is as follows: Take a Pound of *Gutta Cambodia*, bruise it grossly, and then infuse it in a large Glass Phial, in the strongest distilled Vinegar, which must rise above it by about three Fingers Breadth; then expose the Glass to the Sun's Rays, which, in many things, perform the Office of a chymical Fire. At the End of eight or ten Days, let it be passed through a very fine Strainer; and, after that, be inspissated to the due Consistence of an Extract; of which exhibit from twelve to twenty Grains, in the solid Form of Pills, or diluted with Wine; by which Method they will purge plentifully, without Gripings, only by Stool. And this Extract I should prefer before Scammony, in these hot and moist Countries. Ray, Hist. Plant.

ESURINUM. Esurine, or hungry. Vinegar, rectified by means of Verdegrise, as described under the Article *ACETUM*, is called *Acetum Esurinum*.

ETESIAE, ἐτειαί. Certain Winds, frequently mention'd by *Hippocrates*. They are cool Winds, which are said to blow from the North-east, and to temperate the Heat of the Atmosphere. *Pliny* informs us, that North-east Winds (*Aquilones*) blow eight Days before the Dog-star rises, and that these are called *Prodromi*; and that, two Days after the Rising of the Dog-star, the Etesian, or North-east, Winds set in, and continue for forty Days.

According to *Prosper Alpinus*, the Etesian Winds begin to blow, in *Egypt*, when the Sun enters *Cancer*; and blow very constantly the whole Months of *July* and *August*, as well as almost all *June*. At the Rising of these Winds, which happens nearly at the time when the *Nile* begins to increase, all pestilential Distempers, which were before very common, while the contrary Winds blew, are extinguished. For as, he says, the Southerly Winds, which the People of the Country call *Campsin*, (as he supposes, from *Campsis*, a General, who, with his whole Army, was suffocated in the Sand driven upon them by these Winds, as we read in the Life of *Alexander the Great*) induce a morbid and distemper'd Constitution of the Air; it is but natural to expect, that the Etesian Winds, which are directly contrary to them, should purge the Air, and render it wholesome. Besides, the Nature of the Etesian Wind is opposite to pestilential Constitutions, as much as the Southerly Winds are observed to promote Putrefaction; agreeable to that of *Galen*, *Lib. 1. de Temp.* where he says, "that all Things are preserved for a very long time from Putrefaction by the North Wind, which is cold and dry by Nature; but are very easily putrefied by Southern Blasts." And, in many Places, he affirms, that the former Winds induce a healthy and salubrious State of the Air; as in his *Com. in 3 Epid.* "If the Etesian Winds, he says, blow in the Summer, they prevent many Mischiefs and Disorders, which otherwise would happen." And, speaking of a pestilential Air, he says, "If the Etesian Winds had blown at this Season, they had cleansed the Constitution of the human Body from all Distempers." And he assures us, in several Places of his Writings, that the Summers in which the Etesian Winds did not blow, were very sickly. *Hippocrates*, also, describing a pestilential Summer, says, "the Summer was fair and hot, and the Season was very sultry, the Etesian Winds blowing only by weak and scattered Blasts."

Prosper Alpinus, de Med. Egypt.

All this is very consonant to Reason, if we reflect, that the Winds which blow from the North and East, bring with them, in great Abundance, the Acid of the Air, the grand Resister of Putrefaction. See *ACIDA*.

ETHEES.

ETHEES, precious Gold. *Rulandus*.

ETHEL imports both Fire and Blackness. *Ethelia* is a dry adust Body, red and white. *Auricolla Ethela* is a red Tincture; and the white Flower of Gold. *Rulandus*.

Ethel, *Terra alba*, *Sulphur album*, *Fumus albus*, *Auripigmentum*, and *Magnesia*, in the Chymical Art, signify all the same Thing. *Dav. Lagueius, Harm. Chem. in Theat. Chym. Vol. 4. p. 729.*

ETHESIUS LAPIS, the *Chrysolith*. *Rulandus. Johnson.*

ETHICA, the same as *HECTICA*; which see.

ETHMOIDES, ἑθμοειδής, from ἑθμός, a Strainer, and εἶδος, a Form, or Likeness, an Epithet apply'd to a Bone at the Root of the Nose, the *Os Ethmoides*; for which see *CAPUT*.

ETNOS, ἔθνος, in *Hippocrates*, signifies, according to *Galen*, all Kinds of Food, whether solid or liquid, prepared of leguminous Fruits decorticated and bruised, and then boiled.

ETRON, ἑτρον, the *HYPOGASTRIUM*; which see.

ETTALCHE. A Name for the *Cedrus*, *Folio Cypressi, major, fructu flavesciente*. See *CEDRUS*.

ETYMODRYIS. A Name for the *Quercus*; *cum longo Pediculo*.

EVACUATIO, ἐκένωσις, Evacuation, natural or artificial.

EUÆMIA, εὐαιμία, from εὖ, importing Good, and αἷμα, Blood; Goodness of Blood. *Fernel. Pathol.*

EUALTHES, εὐαλθής, from εὖ, importing Ease, and ἄλθω, to heal; easy to be healed. *Hippocrates de Articulis.*

EUANALEPTOS, εὐαναληπτός, (from εὖ, signifying Ease, and ἀναλαμβάνω, to amend, recover) is easily recover'd, or repair'd. *Hippocrates, 6 Epid. Sect. 4. Aph. 7.*

EUANASPHALTOS, εὐανάσφαλτος, from εὖ, importing Ease, and ἀνασφάλλω, to recover Strength, is one who easily recovers, or is soon restored to Health. *Hippoc. περὶ τροφῆς*, in Opposition to δυσανάσφαλτος, *dysanasphaltos*, one who is difficult to be restored.

EUANTHEMON, εὐάνθεμον, the same, according to *Galen's* Exegesis, as the *Anthemis* and *Chamæmelum*. The Word occurs *Lib. 1. περὶ γυναικ.*

EUANTHES, εὐάνθης, from εὖ, well, highly, in a great Degree, and ἄνθος, a Flower, highly florid. Thus, *Coac. 631. εὐάνθεις θρόμβοι διμάδες*, are highly colour'd or florid grumous Concretions of Blood; and εὐάνθης ὕρον highly florid Urine, seems to be what has a spumous Efflorescence on its Superficies. But some take εὐάνθης ὕρον, to be pellucid and pure Urine, which comes nearly to the natural Colour of Urine, and, by its florid Brightness and Transparency, prognosticates a safe and speedy Crisis.

EUAPHION, εὐάφιον, from εὖ, denoting Ease, and ἄφθ, the Touch; a Medicine for the *Hæmorrhoids*, so named for its Gentleness, mention'd by *Galen, de C. M. S. L. Lib. 9. Cap. 7.*

EVAPORATIO. Evaporation; that is, a Dissipation of the finer Parts of any Fluid, by means of the Sun, or a Fire. Tho' Chymical Evaporation is always carry'd on by means of Heat, yet Cold and Winds cause Water to evaporate; and even the hardest Ice is not exempt from Evaporation, as *Mr. Gauteron* informs us, in the *Memoirs of the Royal Academy of Sciences for 1709*; and as we learn from *Dr. Halley*.

EUCARDIOS, εὐκάρδιος. Grateful to the Stomach.

EUCATASCEPTON, εὐκατάσκηπτον, from εὖ, importing Ease, and κατασκήπτω, to be incumbent. An Epithet in *Hippocrates, de Fract.* for a Wound, importing its being properly sustain'd, or supported, by lying upon something soft.

EUCHARISTOS. An Epithet for an Antidote in *Nicolaus Myrepsus, Sect. 1. C. 278.*

EUCHROEA, εὐχροία, from εὖ, importing Goodness, and χροία, or χροία, Colour; Goodness of Colour, Floridness, a healthy Countenance. But *Euchroon* is the Name of a Plaster in *Scribonius Largus, 203.* and in *Galen, de Comp. Med. S. L. 4. C. 7.*

EUCHYLIOS, εὐχυλος, from εὖ, importing Goodness, and χυλός, Humour, Juice; abounding with good Humours or Juices. *Euchymus*, εὐχυμος, has the same Signification.

EUCHYMIA, εὐχυμία, from εὖ, denoting Goodness, and χυμής, Humour, Juice, is Goodness of the Humours or Juices, as well in Aliments, as in the human Body.

EUCINETOS, εὐκίνητος, from εὖ, importing Ease, and κινέω, to move, is easy to be moved. *Hippocrates, 3 Aphor. 17.*

EUCOILIA, εὐκοιλία. An Epithet for Cherries, in *Dioscorides, L. 1. C. 1. 57.* importing, that they render the Belly somewhat soluble.

EUCRASIA, εὐκρασία, from εὖ, good, and κρᾶννυμι, to mix. A good Temperament.

EUDIA, εὐδία, Serenity, Calmness, and Mildness of the Weather. *Hippocrates.*

EUELPIDUM. The Name of a liquid Collyrium; call'd also *Diarrhedon*, and *Diaphmyron*.

EUELPISTI Emplastrum. The Name of a Plaster, describ'd in *Scribonius Largus, N^o 85.* so call'd from *Euelpistes*,

the Son of *Phleges*, a Surgeon mention'd in the Preface to the seventh Book of *Celsus*.

EUEMBOLOS, εὐέμβολος, from εὖ, well; and ἐμβάλλω, to put in. A Surgeon skilful at reducing luxated Bones.

EVENTUS, in Medicine, is generally understood of the Termination of a Disease, whether in Death, Recovery, or another Disease.

EUERES, εὐήρης, from εὖ, well; and ἑρεπύς, an Oar. It imports, easy to be row'd, well-trim'd, relative to a Boat. But *Hippocrates*, who sometimes makes use of naval Phrases, applies it to Medicinal Instruments, in his Book *de Medico*; where it imports ready, or handy.

EVERRICULUM, in *Paré*, is a Sort of *Specillum*, or Spoon, us'd to clear the Bladder of Gravel, and Grumes of Blood, after Lithotomy.

EVERSIO. The same as *Extropium*; which see.

EVESTRUM, in *Paracelsus*, seems to mean a prophetic Spirit, which prefigures, with Certainty, future Events.

EUEXIA, εὐεξία, from εὖ, well, and ἔξις, Habit. A good Habit of Body.

EUGEOS. A Name by which the Uterus is sometimes call'd, on account of its Fertility, from εὖ, well, and γῆ, the Earth; and sometimes, the Hymen has this Appellation.

EVISTIOLA, in *Paracelsus*, seems to import a leprous Disorder in the Nape of the Neck.

EULE, εὐλή, a Worm, properly one that is bred in Ulcers.

EULOGIUM, in *Forestus*, from *Rhazes*, imports an exanthematous Disorder, the Small-pox, or Measles. *Gastellus.*

EUNUCHION. The Lettuce; so call'd from its being suppos'd to restrain Venereal Inclinations; because, according to the Antients, *Venus* lay upon a Bed of Lettuces, after the Death of *Adonis*.

EVOMITIO. A Vomiting. I don't know that it occurs in any Classical Author.

EUONYMOIDES.

The Characters are;

The Leaves are alternate, not conjugate; the Pedicle ends in a monophyllous, quinquefid, stellated, Calyx. The Flower is rosaceous, pentapetalous, furnished with five Stamina, and the Flowers are disposed in Spikes. The Ovary grows to the Placenta in the Bottom of the Calyx, is furnish'd with a Pointal, having a rough Apex, and becomes a globous Capsula, with three Cells, each Cell containing two Seeds immers'd in a Pulp. *Boerhaave* mentions but one Species of this Plant, which is, *Euonymoides*; *Canadensis. Saraz.*

EUONYMUS.

The Characters are;

The Calyx is monophyllous, and quinquefid, or quadrifid; the Flower rosaceous, tetrapetalous, and sometimes pentapetalous, and furnish'd with four or five Stamina. The Ovary, in the Bottom of the Calyx, is furnish'd with a bifid Tube, or Pointal, and becomes an angulous, membranaceous Fruit, divided into four or five Cells, full of oblong Seeds. *Boerhaave, Index alter, Part 2. p. 237.*

Boerhaave mentions four Species of this Plant, which are;

1. *Euonymus*; vulgaris; granis rubentibus. *C. B. P. 428. Jansf. Dendr. 387. Tourn. Inst. 617. Elem. Bot. 490. Boerb. Ind. A. 2. 237. Dill. Cat. Giff. 66. Buxb. 106. Rupp. Flor. Jen. 74. Euonymus*, Offic. Chab. 62. *Ind. Med. 49. Euonymus, Fusanus*, Mont. Ind. 42. *Euonymus Theophrasti*, Ger. 1284. Emac. 1468. Merc. Bot. 1. 34. Phyt. Brit. 30. Mer. Pin. 37. *Euonymus vulgaris*, Park. Theat. 241. Raii Hist. 2. 1621. Synop. 3. 468. *Euonymus multis, aliis Tetragonia*, J. B. 1. 201.
- THE SPINDLE-TREE. *Dale, p. 321.*

They say, its Fruit purges both upwards and downwards: The Peasants make use of the Powder of its Fruit, to kill Lice; or else wash their Hair with the Decoction of its Seeds. *Martyn's Tournefort.*

It grows frequently in the Hedges, and flowers in May. The Fruit is in Use, but of a noxious Quality, and not to be taken inwardly without Danger; externally used, it is an Emollient and Resolvent, kills Lice, and deterges furfuraceous Heads. *Dale.*

Theophrastus affirms, that it is noxious to Cattle; in Confirmation of which, *Matthioli* and *Ruellius* both relate, from their own Experience, that neither Sheep, nor Goat, how greedy soever of young Sprouts of Trees, will ever touch this Plant. *Clusius*, on the contrary, says, that in Hungary he has observ'd Goats to feed very greedily on the Leaves of this Tree, without receiving any Prejudice; which however, considering the ungrateful Smell, and cathartic Quality of this Plant, does not seem very probable. Three or four of the Berries purge upward and downward; boiled in a Lixivium, they dye Hair of a yellow Colour. Of the Wood, in France and Germany, are made the best Spindles: Whence it is call'd *Fusanus* and *Fusaria*. *Raii Hist. Plant.*

2. *Euonymus, latifolius*, *C. B. P. 428. BROAD-LEAV'D SPINDLE-TREE.*

3. *Euonymus*; Africanus *Lycii* crassioribus foliis; semper-virens; capsula triloculari, asperata rubente. *Rhamno similis, triloculari*

Philactulari fructu, folio Pyracanthæ Africana, dicta. Lycium, Africanum, fructu rubro, potius Euvonymo affinis. Ind. 246. Lycium Æthiopicum, Pyracanthæ folio. H. A. 1. 163. EVER-GREEN AFRICAN SPINDLE-TREE, commonly call'd AFRICAN BARBERRY.

4. *Euvonymo affinis, Æthiopica; sempervirens; fructu globoso, scabro; foliis Salicis, rigidis, serratis. H. L. 239. Plukn. Phyt. 176. 3. Lauro serratæ, odoratæ, Stapelianæ similis, inodora, Capitis bonæ Spei, Breyn. Prodr. 1. Laurus non odorata, fructu globoso, Africana. Sterbeek, Citric. 248. Arbor, Africana, facie Loti Arboris vulgo. Evergreen Ethiopian SPINDLE-TREE, with a globular Fruit, and stiff serrated Willow-leaves. Boerb. Ind. alt. Plant. Vol. 2. p. 237.*

EUPATORIOPHALACRON. *Naked-headed Agrimony.*

The Characters are;

It is a corymbiferous Plant, which in some Species have radiated Flowers, whose Flowers are Hermaphrodite, and the Half-florets are Female; but, in other Species, the Flowers are produced in a Disk, and are for the most part Hermaphrodite. The Ovaries have naked Heads, and are placed on a woolly Placenta. All these Parts are contained in a Flower-cup, which is divided into many Parts to the Placenta. To these Notes must be added, the Leaves growing opposite on the Branches.

Miller, in his Dictionary, takes notice of ten Species of this Plant; none of which, at present, have any Medicinal Virtues attributed to them, that I know of.

EUPATORIUM.

The Characters are;

Its Root is fibrous and perennial; the Leaves grow two, three, or four together at Intervals; the Calyx is long, smooth, and scaly. The Flowers form an Umbella, furnished with many long bifid Capillaments, or Threads.

Boerhaave mentions four Species of this Plant; which are,

1. *Eupatorium; cannabinum. C. B. P. 320. Park. 595. Tourn. Inst. 455. Boerb. Ind. A. 118. Dill. Cat. 140. Raii Hist. 1. 293. Synop. 83. Eupatorium Avicennæ, Eupatorium Cannabinum, Offic. Eupatorium cannabinum alterum, Ger. 574. Eupatorium Cannabinum vulgare, foliis trifidis profunde dentatis. Hist. Oxon. 3. 97. Eupatorium adulterinum, J. B. 3. 1065. Chab. 334. Schw. 69. HEMP AGRIMONY. Dale, p. 91.*

This Species of *Eupatorium* has a spreading stringy Root; from which arise redish square Stalks, two or three Foot high, somewhat woolly, having at each Joint two Leaves divided into three long narrow serrated Hemp-like Sections, green above, and whitish underneath. The Flowers grow on the Tops of the Stalks in Clusters, Umbelwise, each being somewhat slender and naked, composed of several filular Flowers, of a purple Colour, divided into five Parts at the Top, and passing away into Down. It grows by Rivers and Ditch-sides, and flowers in July.

Schroder commends this as a very good vulnerary Plant, used inwardly, but especially outwardly, and useful to correct an ill Habit of Body, and cure Coughs and Catarrhs; tho' *Gesner*, upon Trial, found the Root to be a strong Purger. It is but seldom used. *Miller's Bot. Off.*

Two Ounces of the Juice of the Leaves of this Plant, or a Dram of its Extract, and a Ptisan of it, drank by Glassefuls, are very good for Obstructions of the Bowels, especially those which succeed intermitting Fevers, in which the Blood is very much deprived of its natural Balam. A Tea, or Broth, of its Leaves, given after the Legs have been bathed with a Decoction of the whole Plant, affords great Ease in the Dropsy. For the Green-sickness, Itch, and other cutaneous Diseases, it is mixed with Fumitory in Whey, Broths, and Pisans: The Tops, charged with Flowers, are very vulnerary; the Roots purge considerably, both upwards and downwards. This Experience *Gesner* himself had of it: "I lately boiled, he says, some Fibres of the Root of *Eupatorium aquaticum*, or *Avicennæ quorundam*, in Wine, and drank the Decoction after it was strained: In an Hour after, it began to purge plentifully by Stool, Urine, and Vomiting; and work'd near twelve times afterwards, evacuating vast Quantity of Phlegm in a much easier and safer Manner, than is done by Hellebore."

The Leaves of this Plant are very bitter, and do not stain the blue Paper: It is probably endowed with the natural Salt of the Earth, with hardly any other Alteration, than being united with a great deal of Sulphur and Earth. *Martyn's Tournefort.*

Tragus says, that at *Strasbourg*, they only use it for the Diseases of their Cattle; and it appears, by *Gesner's* Experiment, that its Operation is too violent to be trusted on a human Body, unless in small Quantities, and mix'd with other Things to correct it. The People of the *Low-countries* use the Decoction of it with Success in the Jaundice. A certain Person in an Hospital had his Intestines corroded to such a Degree, that the Faeces came out at the Perforations; and, his Case being almost desperate, he try'd a Decoction of this Plant, in Wine, drinking it, and infusing it also into his Ulcers, the Ef-

fect of which was a perfect Conglutination and Cure. *Raii's Hist. Plant. 293.*

2. *Eupatorium; Urticæ foliis; Canadense; flore albo. H. L. App. 667. Eupatorium, Scrophulariæ foliis glabris, flore albo. M. H. 3. 98. Valeriana, Urticæ folio, flore albo. M. H. 3. 97. Corn. 20. CANADA HEMP AGRIMONY, with Nettle-leaves, and a white Flower.*

3. *Eupatorium; Novæ Angliæ; Urticæ foliis; floribus purpureiscentibus; maculato caule. H. L. App. 667. NEW ENGLAND HEMP AGRIMONY, with Nettle-leaves, purplish Flowers, and spotted Stalks.*

4. *Eupatorium; folio oblongo, rugoso; caule purpureascente. T. 456. CANADA HEMP AGRIMONY, with a long rough Leaf, and a purplish Stalk. Boerb. Ind. alt. Plant. Vol. 1. p. 117. See AGRIMONIA.*

EUPEPSIA, *εὐπεψία*, a good Digestion; from *εὖ*, well, and *πέψω*, to digest.

EUPETATON. A Name in *Oribasius, Medic. Collect. L. 7. Cap. 26.* for the *Daphnoides*, which is the *Thymelæa; Laurifolia; Sempervirens; seu Laureola mas.*

EUPHORBIIUM. The Name of a Plant, said to be thus call'd from *Euphorbus*, Physician to the famous *Juba*, and Brother to *Antonius Musa*. But *Salmasius* proves this to be a Mistake, by shewing, that this Plant was known by the Name of *Euphorbium*, many Ages before *Euphorbus* was born.

The Characters are;

The Flower, Fruit, and Milk, are like those of the *Tithymalus*; the Form is angulous like the *Cereus*, prickly for the most part, and almost bare of Leaves.

Boerhaave mentions twelve Species of this Plant; which are,

1. *Euphorbium; Cerei effigie; caulibus crassioribus; spinis validioribus armatum. Breyn. Prodr. 2. M. H. 3. 344. Euphorbium. Dod. p. 378. Euphorbium; cerei effigie. H. A. 1. 21. Tithymalus, Mauritanicus, aphyllus, angulosus, spinosus, ex quo Euphorbium Officinarium. H. L. THICK-STALK'D CEREUS-LIKE EUPHORBIIUM, ARM'D WITH STRONG SPINES.*

2. *Euphorbium; Cerei effigie; caulibus gracilioribus. Tithymalus, Mauritanicus, aphyllus, angulosus, spinosus minor. Ind. 107. Tithymalus Africanus, spinosus, Cerei effigie. Excod. Compt. M. H. 3. 343. SLENDER-STALK'D CEREUS, SHAP'D LIKE EUPHORBIIUM.*

3. *Euphorbium; heptagonum; spinis longissimis, in apice frugiferis. EUPHORBIIUM, with seven Angles, and long Spines, bearing Fruit upon the Tops.*

4. *Euphorbium; Afrum; polygonum; spinosum; caule tuberoso ornato. Tithymalus, aizoides, Africanus, validissimis spinis ex tuberculorum internodiis provenientes. Comm. Præl. 59.*

5. *Euphorbium; tetragonum, & pentagonum; spinosum; Canarinum. Boerb. Ind. A. 258. Euphorbium. Offic. Mil. Cat. 42. Euphorbium tetragonum & pentagonum spinis geminis aduncis munitum. Aët. Reg. Par. anno 1720. Edit. 8vo. p. 500. Euphorbium quadrangulare, sive tetragonum, Hort. Bos. 47. Tithymalus aizoides fruticosus Canariensis aphyllus, quadrangularis, & quinqueangularis, spinis geminis aduncis atronitentibus armatus. Hort. Amst. 2. 207. Raii Hist. 3. 429. Comel. Præl. Bot. 20. Tithymalus aizoides lactifluus, seu Euphorbia Canariensis quadrilatera & quinquelatera Cerei effigie, ad angulos per crebra intervalla spinis veltis atronitentibus, Gazellæ Cornua referentibus armata. Pluk. Phytog. 320. f. 3. Almag. 370. Tithymalus quadrangularis spinosus seu spinis geminis aduncis ex eadem sede ortis armatus, succo lacteo acerrimo turgidus. Hort. Beaum. 41. CANARY EUPHORBIIUM. Dale.*

6. *Euphorbium; Afrum; caule squamoso; tuberoso. Tithymalus aizoides, Africanus, caule simplici squamoso. Comm. Præl. 57. AFRICAN EUPHORBIIUM, with scaly Stalks, and a tuberoso Root.*

7. *Euphorbium; Afrum; caule squamoso, tuberoso; minus, Ex porto amplissimi Simonis Beaumont. LESSER AFRICAN EUPHORBIIUM, with scaly Stalks, and a tuberoso Root.*

8. *Euphorbium; Afrum; caule crasso squamoso, ramis in Capitis Medusæ Speciem cincto. AFRICAN EUPHORBIIUM, with thick scaly Stalks, and branching at the Top like Medusa's Head, commonly called THE SNAKE EUPHORBIIUM.*

9. *Euphorbium; Afrum; facie fructus Pini. Tithymalus, Africanus, arborescens, squamato caule spinoso. M. H. 3. 344. Planta lactaria, Africana, Pini fructuum facie. Breyn. Prodr. 2. 100. AFRICAN EUPHORBIIUM, with the Face of the Pine-fruit, commonly called LITTLE MEDUSA'S HEAD.*

10. *Euphorbium; verum; Antiquorum; scadida Calli. Hort. Malab. Raii Hist. 1. 873. Falk. Flor. Nor. 158. Hort. Amst. 1. 23. Boerb. Ind. A. 259. Euphorbium. Offic. Euphorbium verum, Com. in Not. Euphorbium antiquorum verum, sive Scadidacalli. Hort. Bos. 47. Euphorbium trigonum spinosum rotundifolium. Aët. Reg. Par. anno 1720. Ed. 8vo. p. 500. Euphorbium Indicum Opuntie facie caule geniculato, triangulari. Breyn. Prodr. 2. 44. Flor. Mal. 158. Hist. Oxon. 3. 345. Tithymalus*

lus-aizoides nodosus & *spinofus laete turgens acris*, Pluk. Almag. 370. Commel. Præfud. Bot. 21. *Tithymalus Indicus spinofus* & *angulosus, laete turgens acris*, Hort. Beaum. 411 A. *Scabrida*, Calli. Hort. Mal. 2. 81. THE EUPHORBIIUM-TREE. Dale.

Euphorbium is the inspissated Juice, or Gum, of a thorny Plant, which grows in Barbary, and the East Indies. It is called, by Herman, *Tithymalus Mauritanicus aphyllus angulosus* & *spinofus*, ex quo *Euphorbium officinarum*. Schadida Calli. *Horti Malabarici*, Vol. 2, Tab. 81. It is a different Plant from the *Euphorbium* of Gerard, Parkinson, and Bauhine, having several triangular, succulent, jointed, thick Stalks, beset with a double Row of small, stiff, hard, Prickles, coming off in Pairs; and, if we compare small things with great, like the Horns of a young Steer join'd to a Piece of the Skull. On the Top of the Stalks grow pentapetalous Flowers, succeeded by triangular Seed-vessels, containing each three Seeds. The whole Plant is full of a caustic Milk, which, when dried, is the *Euphorbium*. It is brought over in small brown-yellow Drops, of a gummy resinous Substance, of little Smell, but burning the Nose, causing violent Sneezing; and inflaming the Mouth and Throat.

It is but little us'd inwardly, on account of its hot, caustic, acrimonious Quality; though it was given anciently to cure the Dropsy. But, we having safer and milder Remedies, it is now in Disuse. It is a violent Sternutatory, and is sometimes us'd in Apoplexies and Lethargies. It is us'd outwardly to clean foul and rotten Bones, and to be put into drawing Plaisters.

Official Preparations are the *Oleum Euphorbii simplex* & *compositum*. Miller's Bot. Off.

Geoffroy says, it is so violent a Purgative, that it cannot safely be taken inwardly; but, when dissolved in the Yolk of an Egg, and afterwards diluted with Oil of sweet Almonds, some venture to give it as a Clyster, in the Quantity of twelve Grains, in lethargic Cases, and stubborn Palsies. It is, likewise, us'd in some Snuffs, mixed with Tobacco; but it would be better to mix it with Juice of Liquorice. *Euphorbium* may, also, be us'd to separate the carious Parts of Bones. Geoffroy.

OLEUM EUPHORBII: Oil of Euphorbium.

Take six Drams of Euphorbium, five Ounces of the Oleum Cheirinum, and three Ounces of aromatic Wine; which boil together, in a double Vessel, till the Wine is wasted by Evaporation.

OLEUM DE EUPHORBIO COMPOSITUM:

Compound Oil of Euphorbium.

Take of Staves-acre, and Soapwort, of each half an Ounce; of Pellitory of Spain, six Drams; of dry mountain Calamint, one Ounce and an half; of Costus, ten Drams; and of Castor, five Drams: Bruise, and macerate these for three Days, in three Pints and an half of fragrant White-wine; and then boil with one Pound and an half of the Oil of Wall-flowers; adding, before the Wine is quite consumed, of Euphorbium, half an Ounce; and then finish the Boiling, S. A.

11. *Euphorbium; angulosum, foliis nerii latioribus*. *Tithymalus, aizoides, arborefcens, spinofus, caule angulari, Nerii folio*. Comm. Præf. 56. ANGULAR EUPHORBIIUM, with broad Oleander-leaves.

12. *Euphorbium; quo Anteuphorbium*. Dod. p. 378. Lob. Obs. 643. Lugd. 1692. C. B. P. 387. THE ANTI-EUPHORBIIUM. Boerb. Ind. alt. Vol. 1. p. 258.

See CATHARTICA.

EUPHORIA, *ἑυφορία* from *ἑυ*, well, and *φορέω*, to bear. The easy bearing a Disorder, or the Operation of a Medicine.

EUPHRASIA.

The Characters are;

The Leaves are small, conjugated, roundish, and serrated; the Flower monopetalous, anomalous, perfonated, bilabiated, the upper Lip erect, and multifid; the lower divided into three Parts, each bifid; the Fruit is an oblong bicapsular Pod.

Boerhaave mentions three Species of this Plant; which are,

1. *Euphrasia; officinarum*. C. B. P. 233. Hist. Oxon. 3. 430. Tournef. Inst. 174. Elem. Bot. 142. Boerb. Ind. A. 235. Rupp. Flor. Jen. 195. Buxb. 107. *Euphrasia*. Offic. Ger. 537. Emac. 633. Dill. Cat. Giff. 138. Rivin. Irr. M. 90. J. B. 3. 432. Chab. 475. Raii Hist. 1. 771. Synop. 3. 284. *Euphrasia vulgaris, five alba*. Merc. Bot. 1. 44. Phyt. Brit. 40. *Euphrasia vulgaris*. Park. Theat. 1329. *Euphrasia, five Euphrasia*. Mer. Pin. 37. EYEBRIGHT. Dale.

Eyebright has a small woody Root, full of Fibres, from which springs, usually, one Stalk, branched out into several smaller, somewhat of a redish brown Colour. The Leaves are small, set on by Pairs, opposite, without Foot-stalks, hard, and veiny, roundish, but indented at the Ends. The Flowers grow at

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the Tops, among the Leaves, small and white, and gaping, or galeated, with a yellow Spot in the Middle, and several black Stripes running lengthways; after the Flowers are fallen, come small, long, flattish Seed-vessels, containing very small Seed. Eyebright grows in Fields and Commons; and, flowers in July. The whole Plant is us'd.

This is a Plant famous for all Disorders and Distempers of the Eyes, especially for Dimness of Sight, and to strengthen it when weak and decayed, either given in the Juice, or a Decoction of the Powder of the Leaves. A Powder, made of two Ounces of Eyebright, and half an Ounce of Mace, is very much commended for the same Purposes, especially after proper Evacuations. Some commend it as good against the Jaundice.

The only official Preparation is the *Aqua Euphrasie*.

Miller's Bot. Off.

It is very bitter, and gives a faint Tincture of Red to the blue Paper; which makes us conjecture, that the Sal Ammoniac, though involved in a great deal of Oil and Earth, may predominate in this Plant. It dissolves the Humours, disposes them to circulate, and carry off the obstructing Particles. Every body agrees, that it clears, strengthens, and even restores the Sight. The Powder is given from one Dram to three, in a Glas of Fennel, or Vervain-water. The Use of the Conserve, alone, or mixed with Wormwood-leaves, continued for a long time, is good for the same Purposes. *Arnaldus de Villanova*, in his Treatise, concerning medicinal Wines, very much commends that of Eyebright. In Vintage-time they put this Plant in Must, and drink it, when it is well clarified. *Penna* and *Lobel* prefer the Use of the Powder, to the Wine: They affirm, that one of their Friends in Switzerland, who had but a slight Defluxion in his Eyes, had like to have lost his Sight by drinking Eyebright-wine, for three Months.

Martyn's Tournefort.

PULVIS HELIOPET.

Take of Mace, half an Ounce; of Eyebright, two Ounces; and reduce them to a very fine Powder. The Dose, after due Evacuations, is two Drams; it is effectual in a Scotomy, and Images dancing before the Sight.

Dodonæus adds the Seeds of Fennel, and Sugar: *Fuchsius* commends it in Cataracts.

Fabricius Hildanus, a celebrated Author, on whose Veracity we may depend, assures us, that so great is the Virtue of Eyebright against Weakness of Sight, that Persons of seventy Years of Age, who, by much Watching, and hard Study, had lost their Sight, have recovered it, in that decrepit Age, by the Use of this Plant. Dr. *Tancred Robinson* observes, that Oculists, both in England, and in foreign Parts, prescribe the Use of this Herb, in Sallads, and in Broths, baked in Bread, and infused in what we commonly drink; and apply it outwardly, in Collyria, and Fomentations. Raii Hist. Plant.

2. *Euphrasia; pratensis; rubra*. C. B. P. 234. M. H. 3. 431. *Euphrasia altera*. Dod. p. 55. Col. 1. 200. *Pedicularis, serotina, purpurascens flore*. T. 172.

3. *Euphrasia; ramosa; pratensis; flore albo*. H. Eyst. Æst. o. Arb. F. 13. F. 3. BRANCHED MEADOW-EYEBRIGHT, with a white Flower.

Boerb. Ind. alt. Plant. Vol. 1. p. 236.

EUPHROSINE. A Name for the *Euphrasia*.

EUPHYIA, *ἑυφία* from *ἑυ*, importing Goodness, and *φύω*, to be born, or derive a Beginning. A good natural Disposition of the Parts, or Habit of the Body.

EUPNOIA, *ἑυπνοία* from *ἑυ*, denoting Facility, and *πνέω*, to breathe. Easy Respiration.

EUPORIA, *ἑυπορία* from *ἑυ*, importing Ease, or Expedition; and *πορέω*, to give, or afford. Easiness, Facility. Hence,

FUPORISTA. Medicines easily procured, or prepared.

EUROEOS, *ἑυροεός*. A Name for the *LAPIS JUDÆICUS*.

EUROS, *ἑυρός*. Rottenness, Filthiness, or Putrefaction.

EURUS, *ἑυρός*. The East Wind. It was, among the Antients, and still is, in warm Climates, esteemed salubrious; and very justly, because it cools the Air, and prevents Putrefaction.

EURYCHORIA, *ἑυρυχωρία* from *ἑυρύς*, wide, capacious, and *χωρία*, a Region, or Place. An internal Sinus, or Cavity.

EURYTHMIA, *ἑυρυθμία* from *ἑυρύς*, importing right, or just, and *ῥυθμός*, Order and Harmony, properly in Music. It either imports a Dexterity in a Surgeon, with respect to the handling of his Instruments; or a Fitness, or Aptness, of the Pulse, proportioned to Ages, Natures, or Constitutions.

EUSCHEMOSYNE, *ἑυσχημοσύνη* from *ἑυρύς*, importing Ease and Propriety, and *σχῆμα*, the outward-Form, or Habit. The Elegance of Behaviour, Dignity, and Decorum, which a Physician ought to observe in his Conduct. It includes all the Qualities and Qualifications necessary to constitute a

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fine Gentleman. *Hippocrates* thought this of so much Importance, that he wrote a Treatise expressly on the Subject, in which some excellent Maxims are contain'd.

EUSTATHES, ευσθής· from εὖ, signifying well, just, right, and ἵσμι, to stand, or be established. Constant, regular, preserving the natural Tenor. It is applied to the Seasons, and to Diseases; and, in the last Case, it implies somewhat of Mildness.

EUTAMIEUTOS, εὐταμής. Ready, easy, prompt. *Hippocrates*.

EUTHENIA, εὐθηνία. Vigour, Fulness of Health.

EUTHESIA, εὐθυσία· from εὖ, importing right, just, well, and θῆσις, Situation, Order, and the like. An innate strong Habit of Body, as explained by *Galen*.

EUTHYMIA, εὐθυμία· from εὖ, well, right, and θυμός, the Mind. Serenity or Tranquillity of Mind. *Hippocrates, Epidem. Lib. 5.*

EUTHYORIA, εὐθυρία· from εὐθύς, strait, direct. The same as *IXIS*, which see.

EUTHYPOUS, εὐθύπους. This Adjective, according to *Galen*, imports Breathing easily. It occurs in *Hippocrates, Epid. Lib. 6. Sect. 2. 8.*

EUTHYPOROS, εὐθύπορος, from εὐθύς, straight. Direct. It is an Epithet of Extension, made with a View to reduce a fractured Limb, in *Galen, Method. Medendi.*

EUTROPHIA, εὐτροφία· from εὖ, importing good, and τροφή, Nutriment. Good and plentiful Nutrition.

EVULSIO. Evulsion, or Drawing out. Applied to the Hairs, Teeth, or Fragments of Bones.

EUZOMON. A Name for the *Eruca*, Rocket. *Actius Tetrabib. 1. Serm. 1.*

EXACERBATIO. The same as *PAROXYSMUS*; which see.

EXÆRESIS, from ἔξ, out of, or away, and αἶρω, to remove. That Part of Surgery which consists in removing Superfluities.

EXALIPTES. The same as *Alipta*. See *ALIPTE*.

EXALLAGE, εξαλλαγή, from ἀλλάω, to change, of ἄλλω, another, with the Addition τῆ χροῦς, "of Colour," is a Mutation of Colour; and reckoned among the Disorders of the Eye, from a Depravation of the Humours, as in the Jaundice.

EXALMA, ἔξαλμα, from ἔξω, of ἔξ, out, and ἄλλω, to leap; is a leaping, or starting; and is applied, in particular, by *Hippocrates, de Artic.* to the Starting or Expulsion of the Vertebrae out of their proper Places.

EXALSIS, ἔξασις. The same as *EXALMA*.

EXALTATIO. Exaltation is a Word in Use among the Chymists, and signifies an Operation by which a Substance has its Properties changed, and raised to an higher Degree of Dignity and Virtue. Of Exaltation there are two Kinds; first, *Maturation*, which is nothing but the raising and promoting a thing from a crude to a mature and perfect State; and this is subdivided into four Species, *Digestion, Circulation, Fermentation*, and *Projection*, which see under their several Articles. The second Kind of Exaltation is *Gradation*. Exaltation is otherwise defined, a micro-chronic [μικροχρονική] Subtilization, by which a thing, by a gradual Dissolution, is transposed into a pure and more exalted Degree of its Virtue; and this is effected either by *Circulation* or *Ablution*. *Rulandus*.

EXAMBIOSIS, or **EXAMBIOMA**, ἑμβλωσις, or ἑμβλωμα, from ἀμβλῶ, to miscarry. A Miscarriage. See *ABORTUS*.

EXANASTOMOSIS. The same as *ANASTOMOSIS*, which see.

EXANASTROPHE, ἑκαστροπή. Reconvalescence, or Recovery of Health.

EXANGUIS. Without Blood. The white Parts of the Body, as the Bones and Cartilages, are called the exanguious Parts.

EXANIMATIO. Exanimation. It signifies either Death, or a Syncope.

EXANTHEMATTA, ἑκάνθηματτα, from ἑκάνθω, to spring forth, or blow like a Flower. Pustules, or Eruptions.

EXANTHISMATA, ἑκάνθισματτα. Small Pustules, or Eruptions.

EXANTHROPIA. The third Degree of Melancholy, according to *Wedelius*.

EXAPSIS, ἑκᾶψις, from ἑκᾶω, to kindle. An Accension. *Hippocrates* applies it to Aliments, especially Cheese, which, when corrupted in the Stomach, raise a Heat, and excite Thirst.

EXARAGMA, ἑκᾶγμα. A Collision, Attrition, or Breaking. *Galen, Excege.*

EXARMA, ἑκᾶρμα, from ἑκείρωμαι, to be elevated. An elevated Tumor.

EXARSIO. A hot Intemperature, attended with Drinels; such as happens in hectic Fevers. *Fallopian, de Tumoribus.*

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EXARTEMA, ἑκάρτημα, from ἀρτῶμαι, to be suspended. An Amulet.

EXARTHREMA, ἑκάρθενμα, ἑκάρθενωμα, or ἑκάρθενωσις, from ἑκάρθω, of ἔξ, out, and ἄρθρον, a Joint. A simple Luxation of a Joint, without Fracture.

EXARTHROS, ἑκάρθρος, in *Hippocrates*, is an Epithet for a Person, whose Joints are naturally large and prominent.

EXARTICULATIO. The same as *EXARTHREMA*.

EXASPERATIO, Exasperation. It imports either rendering the Skin rough, or the Increase or Augmentation of a Disorder.

EXASTIAS, ἑκασίας. Flocks, Threads, or Eminences, upon Linen Cloth; or the Ravelings (as the Women call them) of Linen Cloth, when cut.

EXCATHISMA. The same as *SEMICUPIUM*; which see.

EXCESTRENSE OLEUM. *Exeter Oil*.

Take of Wormwood, the Lesser Centaury, Eupatorium, Fennel, Hyssop, Bays, Marjoram, Savine, Sage, and Thyme, of each four Ounces; of Southernwood, Betony, Ground-pine, and Lavender, of each six Ounces; of Rosemary, one Pound; of Chamomile, and Broom-flowers, of Cumin, and Fenugreek-seeds, of black and white Hellebore-root, and of Lemon-peels, of each four Ounces; of Euphorbium, Mustard, Castor, and Pellitory, of each one Ounce; of Oil, two Gallons; and of Wine, three Pints. Let the Herbs, Flowers, Seeds, and Euphorbium, be bruised; the Roots, Peels, and Castor, sliced, and macerated together twelve Hours, in a Bath-heat, with the Wine and Oil: Then, after a gentle Boiling, till the Wine is all consumed by Evaporation, let the Oil be strained out, and kept for Use.

EXCIPIENS. In Prescriptions that is call'd the Excipient, which receives the other Ingredients, and gives them a proper Form; as officinal Electuaries, Conserve, Confections, Robs, or Honey.

EXCIPULUM. A Receiver, in Chymistry.

EXCLUSORIUM. A Medicine which causes Abortion.

EXCORTICATIO. The same as *DECORTICATIO*; which see.

EXCREMENTUM. An Excrement. It is applied to whatever requires to be discharged out of the Body.

EXCRESCENTIA. An Excrecence; that is, any thing which grows preternaturally upon any Part of the human, or any other Body.

EXCRESCENTIA FABÆ BENGALENSIS, Offic. Raii Dendr. 134. **BENGALA BEAN**.

It is round, flat, wrinkled, hollow'd in manner of an Umbilicus, large, brown on the Outside, and blackish within, of a styptic and astringent Taste, and no Smell.

It is a powerful Astringent, and highly servicable in repressing all Sorts of Hemorrhages, particularly a Spitting of Blood, moderately incrassating the Blood, and shutting the Mouths of the Veins and Arteries, consolidating Ruptures, and tempering and allaying acrimonious and corrosive Humours.

D. Martoe, who gives the foregoing Account of its Virtues, was the first, as far as I know, says *Dale*, who communicated this exotic Medicine, with its Uses, to the learned World, under the Name of *Faba Bengalensis*. Hence some took it for a Fruit which comes from *Bengal*, others for a Species of Myrobalan, and others again for the Flower of the Citrine Myrobalan; because it is very often found among those Fruits. But to me, says *Dale*, it seems to be a kind of Excrecence excited by the Puncture of a certain Insect, or more properly the wounded Fruit itself of the Citrine Myrobalan, which, from the Venom of the Stroke, assumes this monstrous Form. I have very often myself, he says, observ'd Plums depriv'd of their natural Shape by a Wound of this Nature inflicted by an Insect, and render'd hollow, without any Stone. *Dale*.

EXCRETIO. Excretion. It either imports the Action of Excretion, or the Excrement excreted.

EXCUSSIO. A Term used by *Bonetus, Sepulchret. Anat. L. 2. Sect. 8. Observat. 31.* speaking of a Palpitation of the Heart, he says, it proceeds either from Oppression or Excussion. That from Oppression is, when it is caused by something which resides in the Heart itself; that from Excussion, when it proceeds from some other Part.

EXCUTIA VENTRICULI.

This is a Name, by modern Surgeons, given to that Instrument represented in *Tab. 42. Fig. 11*. It is generally made of soft Bristles form'd into a Bundle, and fix'd to a flexible brass or iron Wire BBB, which may have flaxen or silken Thread closely wrapt about it. Authors of very considerable Note assert, that this Instrument is highly commodious, not only for removing small Bones from the Fauces, but also for cleansing the Stomach. When 'tis to be used for this latter Purpose, they lay down the following Directions, as necessary to be observed:

observed : A small Draught of warm Water, or, according to others, of Brandy, is to be taken before the Instrument is used ; since, by this means, the Mucus and Sordes are the more easily resolv'd and attenuated in the Stomach. Then the Excucia A is to be immers'd in some proper Liquor, and, by means of the Wire B B, gently pass'd through the Oesophagus, as far as the Stomach. Then it is to be mov'd up and down through the Fauces, like the Sucker of a Siphon or Pump, but must be soon totally extracted. These Authors order the Excucia, and repeated Draughts of the above-mentioned Liquor, to be used, till no more Sordes can be brought away from the Stomach. This Practice is, according to them, so highly beneficial, that by its means the Lives of Men may be protracted to an uncommon Age, especially if it is repeated every Week, every Fortnight, or every Month. However great the Encumbrances bestow'd on this Practice may possibly be, yet, 'tis certain, we have very few Instances of Cures happily brought about by its means ; since the Sense of Pain, and the Danger of Suffocation, attending the Use of this Instrument, must certainly create a just Aversion to it. But these Points are at greater Length discuss'd by *Wedelius*, and *Teichmeierus*, in their *Disputationes de Ventriculi Excucia*. These Authors have also shewn, that this is not altogether an Instrument of modern Date, but long ago describ'd by some Authors. With respect to this, the Reader may consult a small Book, intituled *Sorberiana*. *Heister, Chirurg.*

EXECHEBRONCHOS, *ἑχέβρογχος*, from *ἑχέω*, to jut out, or be prominent, and *βρόγχος*, the Throat. An Epithet for a Person who has a prominent Throat. *Hip. de Artic.*

EXECEGLUTOS, *ἑχέγλυτος*, from *ἑχέω*, to jut or stand out, and *γλήδε*, the Nates; one who has prominent Nates, as when there is a Luxation of both the Thighs outwardly. *Hip. de Artic.*

EXEGESIS, *ἑήγησις*, from *ἑγείρω*, to expound ; an Exposition or Declaration. *ἑήγησις*, as *Galen* says, *Com. 2. in 1 Epid.* is properly concern'd about obscure Words ; but Interpreters have abused the Word to signify an Exposition of the Causes of Obscurities in Words.

EXELCOSIS, *ἑέλκωσις*, from *ἔλκος*, an Ulcer ; an Exulceration. *Moschion, C. 135.*

EXELCYSMUS, *ἑέλκυσμος*, from *ἐλκύω*, to draw, in the *Definitiones Medicæ*, is the Depressure of a Bone or Bones from the Superficies inwards ; but the Author here says, that the true Reading is *ἐπὶ ἐλκυσμός*.

EXENTHROPISMENOS, *ἑκνθροπισμένος*, from *ἑκνθροπίζω*, (of *ἄνθρωπος*, a Man) to be accommodated to the Nature and Use of Mankind. The Word is applied to Food, and occurs *Lib. de Oelimef. Partu.*

EXERAMA, *ἑήραμα*, from *ἑρῶ*, to eject by Vomit ; is the Matter discharg'd by Vomiting. The Verb is us'd by *Hippocrates, Lib. 4. de Morbis*. It signifies, also, to exhaust, *Lib. 2. de Morbis*.

EXERCITATIO, *ἄσκησις*, Exercise, is either of the Body or Mind ; both are necessary to be known in Medicine, and of Service, tho' sometimes, by Abuse, injurious. Exercise of the Body consists in an uncommon Exertion of the natural Forces in the local Motion of the Body and its Members. The several Kinds of it with respect to Medicine are called Gymnastics, and may be found under their proper Articles. Acute Exercise, *γυμνάσιον ἐξυ*, whose Motions are swift, extenuates the Body ; the contrary increases its Bulk ; much Exercise dries the Body, moderate induces an Obesity. *Galen. de Sanit. tuend. Lib. 5. Cap. 3.* The Exercise of the Mind consists in Cares, and the diligent Study of some Art or Science.

EXERRHOSIS, *ἑξέρρωσις*. EXERRHYESIS, *ἑξέρρῃσις*. EXERRHEUSIS, *ἑξέρρευσις* from *ἑ*, out, and *ῥέω*, to flow ; is an Efflux, Effluvium, or Evaporation by insensible Perspiration ; and is much the same as *ECRHOE*, which see. The Word *ἑξέρρωσις* occurs in *6 Epid. Sect. 6. Aph. 27.*

EXFOLIATIVUM. A Rugin, or Raspatory.

EXHALATIO. Exhalation. It either imports the Action of exhaling, or the Matter exhal'd.

EXINANITIO. See *CENOSIS*.

EXIPOTICOS, *ἑξιπωτικός*, from *ἑξιπύομαι*, to press out, or filtre. An Epithet for digesting or deterging Medicines. *Galen, de Comp. Medic. P. G. L. 7. C. 9.* calls them the same as Drawers, or Epispastics.

EXISCHIOS, *ἑίσχιος*, from *ἑξέχω*, or *ἑξίσχω*, to stand out, or be prominent ; signifies jutting out, or prominent ; and in that Sense in *Mochlico*, is apply'd to Joints ; for there are some Persons who have their Joints naturally protuberant or prominent, as if out of their Place, whom *Hippocrates* calls *ἑξασθεν*, and charges the Surgeon to be very careful in his Observations on this Head, when he is concern'd in reducing a Fracture or Luxation. *ἑξίσχιος*, in *Mochl.* is also the same as *ἑξέχλωτος*. See *EXECEGLUTOS*.

EXITELLOS, *ἑξίηλος*, slight, weak, slender, soon vanishing : Apply'd by *Hippocrates, Lib. πει τεσσῶν*, to slender and weak Aliments, which afford little or no Nourishment, or such as is soon dissipated.

EXITURA. By some of the barbarous Writers this Word is us'd to express a suppurated Abscess. But *Paracelsus* applies it to all Sorts of putrid Excrements.

EXMIRALDUS. The Name of a precious Stone, the Composition of which is obscurely describ'd by *Raymond Lully*.

EXOCHÉ, or EXOCHAS, *ἑχόχη*, or *ἑχόχαι*, from *ἑχέω*, to protuberate. A Tubercle or Condyloma of the *Anus*.

EXOMPHALOS, *ἑξομφαλος*, from *ἑ*, out, and *ομφαλός*, the Navel. It signifies any Protuberance of the Navel ; as an *Omphalocæle*, or a Person labouring under such a Disorder. See *HERNIA*.

EXONCOMA, *ἑξόγκωμα*, from *ἑ*, out, and *όγκος*, a Tumor. A very large Swelling or Protuberance.

EXONEIROISIS, *ἑξονείρωσις*, from *ἑ*, out, and *ονειρος*, Sleep. A nocturnal Pollution. This, if rare, may be a Sign of redundant Vigour ; if frequent, it proceeds from Weakness of the seminal Vessels, which is most frequently the Case.

EXOPHTHALMIA, *ἑξοφθαλμία*, from *ἑ*, out, and *όφθαλμός*, the Eye. A Protuberance of the whole Eye, out of the Orbit.

EXORESCENTIA. Exacerbation.

EXOS. A Leech ; and the Name of a Fish. See *EXOSSIS*.

EXOSIS, *ἑξωσις*, from *ἑ*, out, or from, and *ώθω*, to remove by Force. Expulsion.

EXOSSIS. A Name for the Isinglass-fish. See *ICHTHYOCOLLA*.

EXOSTOSIS, *ἑξόστωσις* from *ἑ*, off, or out ; and *όστιον*, a Bone. A preternatural Excrecence of a Bone. See *Os*.

EXOTICOMANIA.

A mad Fondness for exotic Medicines.

EXPECTORANTIA. Medicines which promote Expectoration, or a Discharge of any thing which is offensive to the Lungs, and Aspera Arteria.

Among the several Species of Evacuants, none are, perhaps of more Importance than those which eliminate the viscid Lymph secreted from the arterial Blood, and remaining in the Glands, or rather the glandulous Coats and Emunctories. But in no Part of the Body is there a larger Secretion of mucous Lymph than in the internal Duets of the Aspera Arteria, and the Bronchia of the Lungs, which are internally lin'd with a glandular Coat : Hence very often a serous, pituitous, viscid, and, sometimes, a purulent Matter, is, in Coughing, expectorated, and especially in Disorders immediately affecting the Lungs, whether of the acute or chronical Kind. The Medicines which promote this Evacuation from the Cavity of the Thorax are call'd *Expectorants* ; of which the most considerable in the Vegetable Kingdom are, the Roots of Elecampane, Arum, Florentine Orris, and Liquorice ; the Herbs Paul's-betony, Chervil, Scabious, Mouse-ear, Germander, Hyssop, and the Tarragon ; the Flowers of Violets, Mallows, red Poppies, and Saffron ; the Seeds of Anise, and Fennel ; the Bark of Sassafras ; and, among resinous Gums, Benjamin, and Gum Ammoniac ; among Fruits, Raisins, Figs, Jujubes, and Pine-kernels ; Honey, Liquorice-juice, and Oil of sweet Almonds ; among animal Substances, Sperma Ceti, and Fats ; among mineral Substances, Sulphur, together with its Flowers and Milk ; among compound Substances, the anisated Balsam of Sulphur, the anisated Spirit of Sal Ammoniac, the *Loboch Sanum*, the Syrup prepar'd of the Lungs of a Fox, the pectoral Elixir, the pectoral Balsam of *Meibomius*, and the asthmatic Spirit of *Michaeli*.

As all Substances which promote Excretion do not operate in the same manner, since some render the Matter moveable, and dispose it for Evacuation ; others open the Emunctories, that it may be separated from the Juices, and others stimulate the Vessels and Duets to an excretory Motion ; so Expectorants operate pretty much in the same manner ; for if the Humour secreted is thin and acrid, and the Duets and Pores of the Glands from which it is to be thrown, too much constricted, those Substances are most properly exhibited, which soften the Passages, obtund the Acrimony, and coagulate the too thin and fluid Parts of the Humours. These Intentions are best answer'd by the Juice of Liquorice-root, Saffron, Sperma Ceti, the Flowers of Violets, Mallows, and red Poppies, Cream, Oil of sweet Almonds, Fats of Animals, the Syrup prepar'd from the Lungs of a Fox, the Syrup of Violets, the Syrup of white Poppies, and the *Pilula de Syriace*, especially exhibited with some diluting Liquor, such as a Decoction of Oats, or of the Shavings of Hartshorn in the Form of a Jelly. But when a large Quantity of thick and viscid Matter is lodg'd in the Bronchia of the Lungs, it proves prejudicial to Respiration, and when, for this Reason, some Stimulus to Expectoration becomes necessary, the tough and viscid Matter is excellently resolv'd by Infusions of Paul's-betony, Hyssop, Scabious, and Germander ; as, also, by the *Terra foliata Tartari*, a Solution of Crabs-eyes, and antimoniated Nitre. The nervous Coats of the Bronchia are stimulated to an excretory Motion by a certain acrid, subtle, and oleous Principle, found in Gum

Ammoniac, and its Effence, the anisated Spirit of Sal Ammoniac, Myrrh, Benjamin, Powder of the Roots of Elecampane, and Florentine Orris, Flowers, Milk, and Balsam of Sulphur. When a stronger Stimulus is requir'd, as in a pituitous Asthma, and a suffocative Catarrh, Oxymel of Squills, or the *Spiritus Asthmaticus* of *Michaeli*, which is prepar'd of Gum Ammoniac, and the green Crystals of Copper, may be exhibited.

In the Exhibition of Expectorants, great Caution is to be us'd on account of their different Methods of Operation; and the Physician who prescribes them promiscuously, without any Regard to Time, or the State and Condition of the peccant Matter, certainly does more Harm than Good: Hence, when in epidemical Coughs, raging in the Spring and Autumn, highly stimulating Expectorants are exhibited, before the thin acrid Matter is corrected; or, on the contrary, when after the Matter is concocted and prepar'd, emollient and relaxing Medicines are exhibited; more Harm than Good is produc'd by such Pieces of Practice.

In Coughs of the moist and chronical Kind, as also in a pituitous Asthma, in which large Quantities of Phlegm fall into the Bronchia of the Lungs, sweet Substances, Linctuses, Syrups, and oleous Medicines, weaken the Stomach, whose Strength and Tone are already too much impair'd, diminish the Appetite, Digestion, and Chylification, and not only promote the Generation of more recrementitious Matter, and the Increase of the Disease, but also dispose the Patient to a Cachexy, œdematous Tumors, or even a Dropsy. In these Cases 'tis therefore more expedient to use balsamic Pectorals, which are grateful to the Stomach, such as the pectoral Elixir, the Essences of Myrrh, Gum Ammoniac, and the Tincture of Tatar.

Expectorants ought also to be cautiously us'd in a Phthisis, and Spitting of Blood; as also in dry Coughs, Difficulties of Breathing, and oppressive Pains of the Breast, which rather arise from a Congestion of Blood, than Matter to be expectorated; since, in these Cases, Expectorants, either by softening or stimulating, augment the Congestion of Blood and Humours, instead of removing it.

In acute Disorders of the Breast, such as a legitimate Pleurisy, and a Peripneumony, Expectorants are also to be cautiously us'd, especially in the Beginning, lest by their means the inflammatory Stagnation of the Blood should be increas'd. But when these Disorders are on the Decline, and when the greater Part of the Inflammation is discuss'd, they are very properly and commodiously us'd, in order to draw the concocted and viscid Matter out of the pulmonary Canals. *Fredric. Hoffman. Medicina Rationalis Systematica.*

EXPIRATIO. Expiration. That Part of Respiration, in which the Air is forc'd out of the Lungs.

EXPLORATIO. Exploration, in Surgery, is the probing a Wound, or Ulcer.

EXPLOSION. Explosion. In Chymistry it is call'd Detonation, or Fulmination.

EXPRESSIO. Expression. In Pharmacy, is the Squeezing, or Pressing out the Juice from moist Substances, either by the Hands, or Instruments.

EXSUCCATIO. An Ecchymosis, or Sugillation. See *ECCHYMOISIS*.

EXTASIS. A Species of *CATALEPSIS* (which see); when a Person remembers perfectly, after the Paroxysm is over, the Ideas he conceiv'd during the Time it lasted.

EXTENSOR. A Name given to several Muscles, by Anatomists. Thus there is the

EXTENSOR CARPI RADIALIS;

By some called *Bicornis*, and *Radicens Externus*. It hath two Beginnings, and, indeed, seems to be two distinct Muscles; the outermost arising fleshy above the external Protuberance of the Os Humeri, immediately below the *Supinator Radii longus*, in its Descent becoming a fleshy Belly, and growing tendinous above the Middle of the Radius: The other Beginning of this Muscle is partly fleshy, and partly tendinous below the former, either from the Apex of the outward Extuberance of the Os Humeri, or the superior Part of the Radius; and continues fleshy somewhat lower than the other, both Tendons marching under the *Extensor Pollicis*, run under the *Ligamentum Annulare*, and are inserted into the superior Parts of the Ossa Metacarpi of the fore and middle Fingers.

EXTENSOR CARPI ULNARIS.

This hath an acute tendinous Beginning from the outward Extuberance of the Os Humeri, and becomes fleshy, as it descends according to the Length of the Cubit, growing tendinous again as it marches over the inferior Part of the Ulna; and, passing under the annular Ligament, it is inserted into the superior Part of the metacarpal Bone of the little Finger.

If this Muscle and the *Ulnaris Flexor* act, they move the Hand sideways towards the Ulna; and, in like manner, if the *Radialis Flexor* and *Extensor* act, they move it towards the

Radius. It is well observed by most Authors, that the Extenders, whether belonging to the Fingers or Carpus, arise from the outward Extuberance of the Os Humeri, and their Antagonists the Flexors from the internal Protuberance of the same Bone, as also from the superior and external Part of the Ulna, next the *Anconæus*.

EXTENSOR DIGITORUM COMMUNIS, SEU DIGITORUM TENSOR.

This has an acute tendinous Origination from the outward Extuberance of the Os Humeri, between the *Extensor Carpi*; and becoming fleshy, in less than half its Progress is divided into three Portions, which become so many Tendons, (of which the middlemost is the longest) passing under their annular Ligaments between the lower Parts of the Ulna and Radius; then marching separately over the Back of the Hand, and remitting tendinous Filaments to each other, before they pass the first Internodes of each Finger, they are afterwards inserted into the superior Parts of the first, second, and third Bones of the fore, middle, and third Fingers.

There being little Force required in the Extension of the Fingers, we need not wonder that the Muscles, employed in that Office, are no longer, in proportion to their Antagonists.

EXTENSOR DIGITORUM LONGUS.

This is a long Muscle, fleshy in the upper Part, and tendinous in the lower, lying between the *Tibialis Anticus* and *Peronæus Maximus*.

It is fixed above by fleshy Fibres, in the Outside of the Head of the Tibia, and Inside of the Head of the Fibula, in the upper Part of the interosseous Ligament, thro' three-fourths of the Length of the Fibula, and through the same Space, in the tendinous Septum belonging to the anterior Angle of that Bone.

It seems to mix some Fibres on each Side, with the two first *Peronæi* and *Tibialis Anticus*; and it is very closely united with the *Peronæus Minimus*, which has for that Reason been looked upon as a Portion of this Extensor.

It contracts in Breadth a little above the annular Ligament, and, in passing through it, is divided into three Tendons, the first of which is afterwards divided into two. These four Tendons are inserted along the upper or convex Side of the four small Toes.

EXTENSOR DIGITORUM BREVIS.

This is a small complex Muscle, lying obliquely on the convex Side of the Foot, being also termed *Pedius*.

It is fixed in the upper and outer Side of the anterior Apophysis of the Astragalus, and in the neighbouring Part of the upper Side of that Bone. From thence it runs obliquely from without inwards, under the Tendons of the *Peronæus minimus*, and *Extensor Digitorum longus*, being divided into four fleshy Portions, which terminate in the same Number of Tendons.

The first Tendon is inserted in the upper or convex Part of the first Phalanx of the great Toe: The other three, joining with those of the *Extensor longus*, are inserted along the convex Sides of all the Phalanges of the three following Toes; and when there is a fifth Tendon, which happens very seldom, it goes in the same manner to the little Toe.

As this Muscle is situated obliquely, its Tendons, and those of the *Extensor longus*, cross each other a little; and, after their common Insertion in the first Phalanges of the Toes, those of the short Extensor run along the two other Phalanges, almost on the Outside of the others. All these Tendons communicate by Aponeuroses, in the same manner as those of the Hand.

EXTENSOR INDICIS, SEU INDICATOR,

Arises fleshy from the Middle of the external Part of the Ulna next the Radius, immediately below the *Extensor Pollicis*; and, descending obliquely, becomes tendinous, as it passes under its annular Ligament, at the lower Part of the Radius and Carpus; then, passing over the Os Metacarpi Indicis, and joining with the Tendon of the *Extensor Communis*, it is inserted with it into the superior Part of the third Bone of the fore Finger. The Tendon of it is sometimes divided. Its Name declares its Use.

EXTENSOR MINIMI DIGITI.

This arises partly tendinous at the Extremity of the external Apophysis of the Os Humeri, and partly fleshy from the superior Part of the Ulna, between the *Extensor Communis Digitorum*, and *Musculus Ulnaris Extensor*; and, becoming tendinous as it passes under the *Ligamentum Annulare* at the Carpus, it is there divided into two, sometimes three Tendons, which are united into one at its Insertion into the superior Part of the third Bone of the little Finger. Its Name declares its Action.

EXTENSOR PRIMI INTERNODII POLLICIS.

This arises partly tendinous, but chiefly fleshy, from the upper Part of the Ulna, immediately below the *Supinator Radialis brevis*, soon growing fleshy, and becoming tendinous again, as it descends obliquely over the Tendons of the *Radialis Extensor*, and is inserted into the lower Part of the first Bone of the Thumb. This we have sometimes found divided into two, and sometimes three distinct Muscles.

EXTENSOR SECUNDI INTERNODII POLLICIS.

This arises broad and fleshy, from that Part of the Radius next the Ulna; and becoming tendinous, passes under the same Involucrum with the Tendons of the preceding, to its Implantation at the lower Part of the second Bone of the Thumb.

EXTENSOR TERTII INTERNODII POLLICIS.

This has a broad, partly tendinous, but principally fleshy Origination from the Ulna, immediately below the Beginning of the *Extensor primi Internodii*, or between it and the *Indicator*, as also from the Ligament between the last-named Bone and the Radius; whence descending obliquely, it becomes tendinous, as it marches in a proper Sinus on the inferior Appendix of the Radius, wherein it is inclosed by its annular Ligament, and passes over the two Tendons of the *Radialis Extensor*, to its Insertion at the lower Part of the third Bone of the Thumb.

When this acts, it does not only extend the Thumb, but brings it somewhat backwards, insomuch that some Persons can bring it over the superior and back Part of the *Ossa Metacarpi*.

EXTENSOR POLLICIS LONGUS.

This Muscle doth not arise, as most describe it, from the Tibia, or from the Ligament between it and the Fibula. Its Beginning is large and fleshy from the fore Part of the Fibula, from immediately below its superior Appendix, to four Fingers-breadth above the inferior one; and, descending under the annular Ligament of the Tarsus, between the Tendon of the *Tibialis Anticus*, and those of the *Extensor Digitorum Pedis longus*, and marching along the superior Part of the Foot, it is inserted into the upper Part of the second Bone of the great Toe.

Its Name intimates its Use.

This Muscle, just where it passes under the annular Ligament, sends off a small Tendon, which is inserted into the upper Part of the first Bone of the great Toe externally and laterally, as has been frequently observ'd and demonstrated by that inquisitive and accurate Anatomist, Mr. *Joseph Tanner*.

EXTENSOR POLLICIS BREVIS.

Though this Muscle is not mentioned by Anatomists, yet we constantly observe it in Dissection. It hath been commonly taken for Part of the *Extensor Digitorum brevis*, but we frequently find it distinct.

It ariseth fleshy from the fore Part of the *Ossa Calcis*, and, being dilated into a fleshy Belly, soon becomes a long slender Tendon, passing obliquely over the upper Part of the Foot; and is inserted into the superior Part of the first Bone of the great Toe, which it extends, or pulls upwards.

EXTENUATIO. Extenuation.

Diseases are sometimes observed to cause a remarkable Leanness, or Extenuation, and sometimes a Tumefaction of the Body, the Knowledge of which Habits is of great Importance towards predicting the Fate of the Patient. We shall therefore first shew what a lean, squalid, and wasting Habit of Body signifies in Diseases: Now it is certain, that Bodies become lean or extenuated for want of Nutrition: This the *Greeks* call *στενία*, "an Atrophy;" and we in *Latin*, *Innutritio*, "In-nutrition," or Want of Nutrition; in which, as *Galen* says, *de Sanit. tuend. Lib. 3. Cap. 13.* Bodies receive no Benefit from Aliments. This is what is meant by *Hippocrates*, 2 *Aph.* 8. where he says, "That if a Person just out of a Disease receives no Strength from the Aliments he takes, it indicates that he uses too much Aliment; but if the Case be the same, when the Party takes no Food, Evacuation is indicated." And to the same Purpose he speaks afterwards, 2 *Aph.* 31. "If, after a Sickness, the Body receives no Benefit from Food taken with a good Appetite, it is a bad Sign." And this is the Atrophy, or Innutrition, which is observ'd in Bodies free from febrile Heats, or labouring under a long, but slow Fever: Wherefore in long and tedious Distempers, tho' it be natural for the Body to be emaciated, and the Flesh to be very much wasted; yet if, in the Decline of the Disease, the Strength and bodily Habit of the Patient receives no Improvement, tho' he eats with an Appetite, it predicts a Relapse. In an hectic Fever, Phthisis, or Peripneumony, an incurable

Leanness and Emaciation is a very bad Prognostic; but, when it proceeds from a Spitting of Blood, attended with a slow, but continual Fever, it portends nothing but Death: And where a Phthisis is suspected, what principally abates the Hopes of the Physician, is the obstinate Leanness and Extenuation of the Patient, and his labouring continually under a Fever. They, also, who have long labour'd under burning Fevers, and are very much emaciated, and falling into a *Marasmus*, are incurable. We may conclude, therefore, that an inveterate Leanness, Thinness, or Extenuation of Body under a Pleurisy or Peripneumony, where the peccant Matter is not duly discharged by Expectoration, is a mortal Sign, as indicating a Phthisis.

But we shall proceed to treat of Extenuation in acute Diseases, and particularly at their Commencement, which is of great Moment in Prognostics, according to the Judgment of *Hippocrates*, 2 *Aph.* 28. where he pronounces it "a bad Sign" for the Body, under a considerable Fever, not to be waited "at all, or to an immoderate Degree, that is, beyond what Reason requires; for the latter indicates a great Decay of Strength, and the other prognosticates the long Duration of the Disease." Now it is no more than what Reason requires, that a violent Fever should cause a speedy Extenuation, like that from long Diseases, and most easily in Children and old Persons; in these, because of the Weakness of the Faculty; and in the others, from their hot and moist Temperament; whence they suffer under a profuse Colliquation, and are soon extenuated. We may add, as Causes, the Climate, with an hot and dry Season of the Year. In these Circumstances there is Reason for the Patient's Extenuation, as well as from a copious preceding Haemorrhage, much Sweating, Plenty of Urine, Vomiting, or Looseness, long Fasting, Want of Sleep, and Solitude of Mind: *Galen* adds to these Causes the Laxness of the Body, and the Thinness of the Humours, which occasion an extraordinary Diaphoresis and Extenuation: All these Things waste and extenuate the Body, without enabling us to pronounce any thing with Certainty, on the Event of the Disease. But for the Patient, in the Beginning of the Distemper, on account of none of these external Causes before-mentioned, but with a cold and dry Body, in the Winter Season, and a cold Constitution of the Air, in the Vigour of his Age, with gross Humours, and a dense Skin, speedily to fall away, and be emaciated, must be a very bad Sign. *Galen*, commenting on this Aphorism, gives a Reason why the Continuance of the Body in the same State, without Exhaustion or Diminution, should be reckon'd a bad Prognostic; which is, he says, because such a Disposition indicates a Grossness of the Humours, and a Defence of the Skin.

Of all the Parts of the Body, the Face is the first extenuated in acute Diseases, because the acrimonious Heat, ascending like a Flame, consumes the small Parcels of Flesh which are incumbent on the Bones and Cartilages; and the Leanness appears more conspicuous in the Face, because that Part is less furnish'd with Flesh. A Face which threatens the greatest Danger is described by *Hippocrates Prognost.* in the following Manner: "The Nose is sharp, the Eyes hollow, the Temples depress'd, the Ears cold and contracted, and their Lobes inverted; the Skin about the Forehead hard, tense, and dry, and the whole Face of a pale-green, black, livid, or leaden Colour." This Sort of Face, which commonly goes, among Physicians, by the Name of *Facies Hippocratica*, is usually seen in hectic and phthisical Patients, who are very much extenuated; and if it appears in two or three Days from the Commencement of the Distemper, without any preceding extrinsic Cause, as from some remarkable Evacuation by an Haemorrhage, Sweats, Stool, or Urine, or from Want of Sleep, Fasting, or Trouble of Mind, nor has for its Subject a Child, or decrepit Person, whose Habit of Body is easily dissoluble by a slight Cause, but happens to one of adult Age, of a dense Habit, and, what is principally to be regarded, in a frigid and dry Temperament, in the cold and moist Season of the Winter, and a suitable Constitution of the Air, prognosticates the worst of Events: For, as *Galen* says, in his Comment on the Place, such Symptoms proceed either from some Cause which corrupts and consumes the fleshy Parts, or from the Defect of the natural Heat, which is too weak to extend itself to the extreme Parts of the Body, but keeps its Residence in a feeble State in the Viscera; whence those Parts are deprived of their usual Supplies of Blood and Spirits. This Extenuation of the Face then proceeds from an intense Heat, which speedily consumes the natural Moisture, or corrupts the same by its Malignity, and from a Decay and Languishment of the natural Heat, thro' the Force of the Disease: And if there be no Reason to be given for this Symptom, such as a preceding Abstinence, Want of Sleep, or Solitude of Mind, this Habit of Face is a mortal Indication. *Hippocrates* has express'd himself to this Purpose, in the following Manner, *Prognost.* "If such be the Countenance of the Patient," [as before describ'd] "and we have no other Signs by which to form a Judgment, it will be proper to inquire of the sick Person,

" Person, whether he has been affected with Want of Sleep, or a violent Flux of the Belly, or has fasted a considerable time; and, if he confesses any of these Circumstances to have preceded, his Case is less dangerous; and, if such a Visage be owing to any of the forementioned Causes, we may pass a Judgment on them in a Day and a Night; but if none of these appears to be in the Fault, and the Face continues under the same Aspect, during the time just mentioned, it is a mortal Prognostic." But how we may know, without interrogating the sick Person, whether there has been any preceding Watching, Fasting, or immoderate Evacuation, we are taught by *Galen*, in his Comment on the Place, as follows: " You may know at first Sight of the Patient, whether he has been long without Sleep; for you may observe his Eyes to be very squalid, and to a greater Degree than they are from an evident and immoderate Evacuation: Besides, he will hardly be able to lift up his Eyelids, but will wink, and move his Eyes in the same unsteady and irregular Manner, as in a Coma: And tho' you have never seen the Patient before, you will be enabled to form some Judgment of him from the Pulse, which will always preserve some Indication, however small it be, of an immoderate Evacuation, if that be the Cause; but, if Want of Sleep be the Cause of such an Aspect, the Pulse will resemble the Vibrations of an extended Cord. But if such a Countenance proceed only from Abstinence, or Want of Food, none of the Signs which indicate an immoderate Evacuation, or Want of Sleep, will appear; for which Reason there will be more Grounds to judge from accidental than proper Signs, that the Patient is affected in this manner for Want of Food, especially when the Fever, upon due Consideration, does not appear, in the least, to have the Property of a colliquative Heat; for, if that were the Case, this Extenuation of the Countenance might be owing to the Fever, rather than any extrinsic Cause. You ought, therefore, to be the longer in feeling the whole Hand of the Patient, and not only the Wrist, but the Parts above it; and carefully observe, whether the Parts you touch, emit not only an acrimonious, but a substantial Plenty of Effluvia, which like a Flame pervade the Skin of your Hand, with which you touch the Skin of the Patient, and insinuate themselves deeply therein; for such are the Fevers, which render the Face of such an Aspect."

From a due Consideration of the Premises you will be enabled to pronounce, whether the *Facies Hippocratica* proceeds from Watching, Fasting, or evident and immoderate Evacuation; and if, in the Beginning of acute Fevers, the Face appears extenuated, in the manner described, it predicts nothing but Death: But in some chronical Diseases, as in hectic Fevers, and a Phthisis, not only the Face, but the whole Body, is render'd squalid and dry, and reduced to Skin and Bone.

But we shall now briefly consider, what may be infer'd, or prognosticated, from a Tumidness of the Body: For the Body to be inflated and tumefy'd, is never a good Sign, since in acute Diseases the Face is swelled, either by the Redundance of the Blood in the Vessels distending the Veins, and by the Vapours, whence proceeds an Heaviness of the whole Body, as in continual Fevers; or from an Inflammation with an Afflux of Humours, as in the Parotides; or, lastly, on account of a windy and vaporous Crudity, from a vitiated Sanguification, as in pituitous Fevers, and the Leucophlegmatia, or Anasarca: A Tumefaction from the two first Causes is not so very bad, nor can any thing, with Certainty, be prognosticated from it; but in the last Case, where there is a Tumidness, or Bloatedness from a gross Vapour distending the Skin, and occasion'd by a refrigerated Liver, and a vitiated Sanguification, the Destruction of the Patient may be often prognosticated. To this Purpose, the Author of the *Coac. Præfag. T. 139.* says, that those who labour under a Lethargy, are swelled, or bloated, and have their Cheeks inflated. From the same Cause, that is, a Refrigeration of the Liver, under a very hot and acute Distemper dissolving the natural Heat of that Part, the Hypochondria, Belly, Feet, Hips, and Face, are œdematously affected, not without great Danger of Life: This is the Case of those who fall into a Dropsy, and what is meant by *Hippocrates, Prognost.* when he says, " that all Dropsies proceeding from acute Diseases are bad; for they allay not the Fever, and are, besides, very painful and mortal, and generally commence at the Hips and Loins, and sometimes at the Liver." In many Persons affected with an *Empyema*, or *Phthisis*, at the Approach of Death, the Feet, Legs, and Face appear swell'd and cadaverous, from no other Cause than the extreme Decay of Heat in the Liver; and I have known several Instances of Persons, who, at the Approach of Death have had the whole Bulk of their Bodies tumefy'd and inflated.

Hence we conclude, that an Inflation of the Body under acute Diseases is never good; but in an *Empyema*, or *Phthisis*, mortal to the last Degree. However, for the Parts to appear tumid, is not always a bad Sign in acute, and much less

in chronical Distempers; for in many of these latter, the natural Heat being debilitated by the long Course of the Disease, the Feet are tumefy'd; which afterwards, as the Heat recovers Strength, from a Discussion of the Vapours, and a Desiccation of the Humours, are restored to their former Habit; and in acute Diseases Nature often, by way of Crisis, throws off the Humours on the Legs and Feet: Sometimes it happens, that, in acute Disorders, the Face, as we said, swells, from Vapours excited by the febrile Heat, and not discussed; but, on their Discussion, is soon afterwards freed from the Inflation. We must be cautious therefore in our Predictions from Tumefaction of the Face in Diseases, and not presume to prognosticate from it, without a thorough Inspection and Consideration of the other Signs which appear in the Countenance. *Prosper Alpinus de Præfag. Vit. & Mort.*

EXTIRPATIO. Amputation.

EXTRACTIO, Extraction, in Surgery, is the drawing from, or out of the Body, any thing which is offensive. In Pharmacy, Extraction is the Separation of the pure from the impure Part of a Body, by means of a proper Menstruum. See **DECOCTIO**.

EXTRACTUM, an Extract, in Pharmacy, is usually understood to mean a Solution of the purer Parts of a mix'd Body, inspissated by Distillation, or Evaporation, nearly to the Consistence of Honey.

The Directions given by the College for preparing Extracts, are thus:

Extracts may be made almost of any Part of the *Materia Medica*, or from any Medicine, (whether simple, as Herbs, Flowers, Seeds, and the like; or compounded, as Species, Pills, and the like) that is suited to give Tincture to any Menstruum, in which it is customarily infused: And therefore take any thing within this Compass, which cut, bruise, or any other way manage, as the Nature of it requires for Infusion: Pour upon it Spirit of Wine, or any distilled Waters, most accommodated to the Prescriber's Intention, a sufficient Quantity: Let it continue in Infusion in a Bath, or any other slow Heat, for two Days or more, according as the Hardness or Softness of the Matter requires, until the Liquor is impregnated with the Tincture of the Thing infused. Then let the tinged Liquor be separated by Inclination, pouring on fresh Menstruum, infusing and separating as before, as long as any Tincture can be obtained. Let all the Tinctures be put together, and filtered through Cap-paper; and then in a Bath Heat evaporate the Humidity, until the Matter left is of the Consistence of Honey; which must be kept for Use: And to this Extract, for the sake of preserving it moist, may be added some Portion of Salt, or some other thing suitable also to the main Intention; as two Scruples, for Instance, or half a Dram, to every Ounce of Extract.

The *Extractum Thebaicum* consists only of Opium, dissolv'd in Water, strain'd and evaporated to a Consistence.

The *Extractum Rudii* is the same as the *Pilule Rudii*.

EXTRAVASATUS. Extravasated. This is apply'd to any Sort of Fluid, which is got out of the Vessels, in which it ought to be contain'd. Thus, in an Ecchymosis, Sugillation, or Aneurysm, the Blood is said to be extravasated.

EXTRAVERSIO, Extraversion, in Chymistry, is the rendering manifest any thing saline, alkaline, or acid, conceal'd in mix'd Bodies; and is just the Reverse to one Species of Concentration.

EXTREMITATES. The Extremities, or extreme Parts.

The extreme Parts, according to *Galen*, in his Comment on the *Prognostics*, are the Ears, Nose, Hands, and Feet; and these Parts, in acute Diseases, often afford great Matter for Prognostication, since Death never happens without some Alteration in those Parts from their natural State: For, in dying Persons, the extreme Parts are necessarily refrigerated, and turn livid and black; and oftentimes the Hands and Feet are subject to odd and irregular Motions. An Heat of the Extremities, therefore, is never a bad Sign; but their Coldness is always bad, and worst of all when the inward Parts are hot, and parch'd with Drought. This is well express'd by *Celsus* from *Hippocrates*: " When the outward Parts, he says, are cold, and the inward Parts so hot, as to cause a Thirst, the Fever not at all remitting, it is a mortal Prognostic." And, tho' a Coldness of the extreme Parts in continual Fevers be always a formidable Symptom, it is most pernicious when it continues with little or no Abatement; and, if these Parts at the same time appear livid or black, mortal in a very high Degree.

Hippocrates, speaking of Patients under acute Fevers, from a predominant Constitution of the Air, 1 *Epid. Sect. 1.* tells us, " that their extreme Parts were very much refrigerated, so that it was scarce possible to provoke any Heat in them." And, a little after, *Sect. 2.* describing the Symptoms of a continual Fever, from a particular Constitution of the Season, he says, among the rest, " that the Extremities were remarkably cold, and it was very difficult to recal the Heat into them." The same was observ'd of *Philiscus*, when given over, 1 *Epid. Sect.*

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Seet. 1. Ægr. 1. "His extreme Parts were every-where refrigerated, and the Heat never returned into them."

The same Prognostics are to be drawn from the Colour of the Extremities; for their best Colour is the same as when the Patients were found in Health; tho' it may perhaps, under a Crisis, be sometimes red and inflamed, from the Blood then settling in those Parts; but the worst and most fatal Colour is the livid and black.

In acute Diseases, then, for the extreme Parts to appear black or livid, is a mortal Prognostic, as indicating either an Extinction of the Heat, or the Height of Putrefaction in the Humours. These Colours of the Extremities were observ'd by *Hippocrates* in *Philiscus* and *Silenus*, when dying; of the former of whom he says, *1 Epid. Ægr. 1.* "that he was in a cold Sweat, and his extreme Parts were livid;" and of *Silenus*, *ibid. Ægr. 2.* "that he sweated a little about his Head; that his Extremities were cold and livid; and that he was very restless."

For the Hands and Feet to be moved and agitated after an odd and disorderly Manner, is condemn'd by *Hippocrates*, *Lib. Prognost.* where he says, "that they who under an acute Fever, Delirium, Peripneumony, or Cephalalgia, wave their Hands at every turn before their Face, or pick Motes, or pull Hairs out of the Clothes, or pick Straws from the Wall, are all in a bad and very dangerous State." It is a Symptom no less to be dreaded, for the Patient to have

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his Feet uncover'd, and not warm; of which we read, *ibid.* "If the Sick have his Feet naked, without any considerable Heat, and throws about his Hands, Neck, and Legs, in a loose disorderly manner, it is a bad Sign, as indicating an Anxiety." *Prosper Alpinus de Præfag. Vit. & Mort.* EXUBERES. Children which are wean'd, are thus called.

EXULCERATIO. Exulceration.

EXUMBILICATIO. A Protuberance of the Navel.

EXUNGULATIO. Exungulation. Is cutting off the Ungues, or white Part, of the Petals of Roses.

EXUROS, *ἔξυρος*, from *ἔξ*, a Tail. Taper, in the Form of a Tail; in which Shape *Hippocrates* directs Pessaries to be made, *de Morb. Mulier. L. 2.*

EXUVIÆ. The Sloughs of Serpents; that is, the Skins which they cast in the Spring. These, when tied to the Abdomen, or Loins, are thought to facilitate the Delivery of Women in Labour; and, when form'd into Gargarisms, to alleviate the Tooth-ach. They cure the Impetigo, when reduc'd to a Powder, or burnt to Ashes, and applied to the Part affected. If the Head is rub'd with them, they prevent a Falling off of the Hairs, and make them grow. *Schrod. Pharmacop. Med. Chym.*

EZEPH. The Sun. *Johnson.*

EZEZICH. Salt. *Rulandus.*

EZULA. The same as ESULA.

F.

F A B

F A B

F, In the chymical Alphabet, signifies, as it is explain'd *Luna clara*; probably relative to Silver.

FABA. The Bean.

Faba, was called by the *Greeks* *κίβανος* by the *Falisci*, a People of *Hetruria*, now *Tuscany*, *Haba*; whence the Name *Faba* seems to be taken. *Martinius* derives the Word from *φαειν* [*pao*], to feed; as if it were *Paba*; *Isidorus*, from *φαγω* [*fago*], to eat. *Dodonæus* gives this Kind of Puls, or leguminous Fruit, a Name with a *Latin* Termination, and calls it *Boona*, from the *High-Dutch* *Boon*, to shew his Learning, as *J. Bauhine* says; but this Name *Boon*, as well as *Bean*, seem both deriv'd from the *Italian* Word *Baiana*, by which Name young Beans are cry'd to be sold all over *Lombardy*, and the State of *Genoa*, as *Hermolaus* assures us. The *Greek* Name *κίβανος* is supposed to be given them, because they are *εἰς τὸ κίβανον ἀνέροι, καὶ ἀνέροι τὸ κίβανον*, potent Stimulators to Venery.

The Characters of the Bean are;

It has a long unicapfular Pod, full of reniform Seeds: The Stalks are firm, and the Leaves grow in Pairs, and, as it were, conjugated to a Rib, which ends in a Point. *Boerhaave*, *Pars 2. p. 45.*

Boerhaave mentions six Species of this Plant; which are,

1. *Faba*, *Offic. C. B. Pin. 338. Raii Hist. 1. 909. Synop. 3. 323. Boerb. Ind. A. 2. 45. Faba hortensis major*, *Ger. 1036. Emac. 1209. Mer. Pin. 38. Park. Theat. 1054. Faba, Cyanus leguminosa*, *J. B. 2. 278. Faba, Bona major*, *Hist. Oxon. 2. 83. Faba, flore candido, lituris nigris conspicuo*, *Tourn. Inst. 391. Rupp. Flor. Jen. 212. Buxb. 107. Faba major recentiorum*, *Elem. Bot. 312. Faba major vulgaris, sive Phascolus major*, *Merc. Bot. 1. 35. Phyt. Brit. 40. GARDEN-BEANS.*

Garden-beans are known to every body to have hollow, angular, pretty firm Stalks, growing to be two or three Foot high, set alternately with Leaves composed of several large oval Pinnæ, which usually, though not always, stand opposite; at the Foot of the Leaves grow the Flowers, several together, which are large and papilionaceous, or like a Pea's Blossom, white, with two large black Spots in the under Leaves: These are succeeded by large, erect, somewhat flat Pods, woolly within, in each of which lie two or three flatish Beans, mostly white, but sometimes red, having the Head a little compress'd, with a little Hilus, or Spot: They are sown in Gardens, flowering in *May*; and the Beans are ripe in *June* or *July*.

They are frequently eaten for Food, in the Summer-time, while they are young, being a pleasant, and to most People a grateful Dish; and; though somewhat windy, are not more

so than most other Puls. The distil'd Water from the Flowers is used by many as a Cosmetic; and that from the Pods is accounted good for the Wind and Gripes in Children. The Bean-meal or Flour is rarely us'd inwardly, though commended by some for a Looseness and the Bloody-flux; but it is frequently made use of in outward Applications, in Cataplasms, against Inflammations, and to dissolve Swellings or Tumors.

Official Preparations are, *Aqua Florum, & Siliquarum Fabarum. Miller's Bot. Off.*

Beans, in many Countries, are a great Part of their Food, during Spring, and throughout the Summer. We are of Opinion, with *Tragus*, that the young Beans are wholesome Aliment, and generate good Juices. The Antients, with *Dodonæus*, *Cassp. Hoffman*, and some others of the Moderns, tell us, that Beans are flatulent, and the greener they are, the more flatulent, and, consequently, the more difficult of Concoction: "However, we, says *Ray*, do not find this to be true, tho' we frequently feed upon Beans in the Summer: "Nor do we approve of the Opinion of *Dodonæus*, who presers the old and dry Beans before the green ones, because he thinks them less flatulent; but, with *Tragus*, leave them to our Horses: Nor do I see why they should not fatten Men, as well as a Swine, and other Animals."

Dr. Mundy, in his Treatise of Foods, says, that he knew a Peasant, who, in a great Dearth of Provisions, fed his Children with nothing but boil'd Beans; and yet you should hardly see Boys of a better Colour, or Habit of Body; which proves, that dry Beans afford a copious Nutriment, when the Stomach is once accusom'd to bear them.

As to the astringent Quality of Bean-flour, and its consequent medicinal Uses in the Dysentery, Authors, I find, differ. *Cassp. Hoffman* says, it would be vain to expect astringent Effects from the Flower of Beans, which the Antients called *Faba fresca*, and *Lomentum Fabæ*, because it is prepared without the Cortex, or Skin, in which lies all the Astringency. And hence it appears, he says, how much they are in the wrong, who ascribe the Use of Bean-flour, boiled in Vinegar alone, or in Vinegar and Water, for Fluxes proceeding from a Debility of the retentive Faculty; for, unless you boil them whole, they signify nothing.

Dodonæus, on the contrary, says, that Beans, with their Skins, or Husks, are neither slow, nor very quick, in passing through the Body; but that without their Husks they are binding. "We, says *Ray*, incline to *Dodonæus's* Opinion; since we find, that in Wheat the Flour, separated from the Bran, binds the more powerfully; and that the Bran is deterfive,

"and

"and promotes the Passage of the Flour. However, we leave the Matter to be decided by Experience."

Bean-flour is not only good internally in Diarrhoeas and Dysenteries, but outwardly for Sun-burning, and other cutaneous Deformities, and for obliterating the Marks of Sugillations. The distilled Water of the Flowers is diuretic, and of very great Use in clearing the Face of all Kinds of Spots or Blemishes, being an excellent Cosmétique. The Flowers have a most fragrant Smell, so that a Field, or Garden, set with Beans, when in Blossom, may be smelled at a good Distance.

Whether the *Boona*, or *Bean*, be the *Faba* of the Antients, is much disputed among Botanists. It is certain, that the *Faba* of the Antients was small and round, as appears from an infinite Number of Places in *Theophrastus*, *Dioscorides*, and others. On the other Side, it seems impossible, and is hardly credible, that a leguminous Fruit, so common, and of daily Use, should have grown into Disuse, or have changed its Name; and that the *Boona* should come to succeed it, without any Person's Knowledge: The Arguments, says *Caspar Hoffman*, of those who oppose this Opinion, are faulty in this, that they institute the Comparison between the *Faba* of the Antients and our larger Bean, whereas the Comparison ought to be instituted between that and our smaller Bean.

For Disorders of the Kidneys: Take the Ashes of Bean-stalk, make a Lixivium of them; strain through *Hippocrates's* Sleeve, and edulcorate the strained Liquor with Sugar, and Cinnamon: Of this Preparation six Ounces are to be taken for a Dose.

Guido de Cauliaco informs us, that by means of this Remedy he was freed from a violent Pain of the Kidneys, in the Beginning of a double tertian Fever; for it provokes Urine, cleanses the Passages, expels Pus and Gravel, and promotes the Menstrues. *Dr. Hulse* justly thinks, that this Effect is to be ascribed to the Salts contained in the Lixivium: For, says he, I myself, for a Woman much subject to nephritic Pains, and whose Legs were considerably swelled, ordered a Diet-drink, in which a large Quantity of the Ashes of Broom was boil'd. By this means a great Number of small Stones were discharg'd from her Kidneys, but with so intense a Pain, that she was forced to desist from the Use of it.

Hence, in order to provoke Urine, *Mr. Chesneau* recommends eight Grains of the Salt, extracted from the Stalks of Beans, to be exhibited in some proper Liquor; or, if this Salt cannot be had, he orders six Ounces of the Lixivium, prepared of the Ashes, and clarified, to be mixed with one Ounce of the Syrup of Marshmallows.

Simon Pauli, in his *Botan. Quadripartit.* informs us, that he knew a Person, who, for four Months, had voided bloody Stools, perfectly cured only by the Use of red Beans, boiled by way of Pudding, and taken every Night and Morning, after all other Medicines had proved entirely ineffectual.

The Precept of *Pythagoras*, which enjoins Abstinence from Beans, is variously interpreted by ancient and modern Writers. Some understand it simply of Beans; Abstinence from which, they suppose, *Pythagoras* enjoined, because they were flatulent, and a Stimulus to Venery, destructive of the Tranquillity of the Mind, and productive of turbulent Dreams. Others, according to *Pliny*, in the 12th Chapter of his 18th Book, think, that *Pythagoras* discharged the eating of Beans, because the Souls of the Dead were lodged in them, and because on their Flowers there were found unlucky Letters. Others are of Opinion, that Testicles are symbolically and enigmatically called Beans, because the one resembles the other; and that for this Reason *Pythagoras* did not condemn the Use of Beans, which he eat frequently himself, but the immoderate Use of Venery. Some others, and, among the rest, *Plutarch*, think, that *Pythagoras* enjoined to abstain from bearing any Offices of State; for, in the Choice of Magistrates, the ancient Greeks used Beans instead of Stones. *Ray, Hist. Plant.*

The young Leaves, boiled in Broth, are esteemed highly emollient.

2. *Faba*. *C. B. P.* 338. *Siliqua*, & *semine*, latiore. *K. a.*

3. *Faba*; minor; seu *Equina*. *C. B. P.* 338. THE SMALL, or HORSE-BEAN.

These grow, in all respects, like the Garden-beans, saving that they are less in all the Parts; the Pods, as well as the Beans, being rounder as well as smaller. They are sown in the Fields, flowering and ripening somewhat later than the Garden-bean.

They are used outwardly for the same Purposes as the above-mentioned; but are mostly spent in Food for Horses.

Miller's Bot. Off.

4. *Faba*; rotunda, oblonga, seu cylindracea; minor; seu *Equina*, nigra. *M. H.* 2. 85.

5. *Faba*; rotunda, oblonga, seu cylindracea; minima; pluribus, quinis, senis siliquis uno pediculo exortis, seu *Hattomiana*. *M. H.* 2. 86.

6. *Faba*; fructu ex rubicundo colore purpurascete. *C. B. P.* 338. *Var. 1. a.* *Boerb. Ind. alt. Plant. Vol. 2. p. 45.*

FABA STI. IGNATII. *Offic. Nux Pepita, seu Faba Sancti Ignatii*. *Aët. Philos. Lond. N°. 249. p. 44.* *Igasur, seu Nux Vomica legitima Serapionis*. *Ejuld.* 88. *Fig. 4. 5. 6.* *Igasur, seu Nux Vomica legitima Serapionis Camelli, Faba Sancti Ignatii vulgo*. *Raii Dendr.* 118. *Cucurbitifera Malabathri foliis scandens Catalongay, & Contara Philippinis Orientalibus dicta, cujus Nuclei Pepitas de Bysayas, aut Catbalagan & Fabæ Sancti Ignatii ab Hispanis, Igasur & Mananaog, i. e. Victoriæ, Insularis nuncupati*. *Pl. Mant.* 60. *ST. IGNATIUS'S BEAN.*

Of this Fruit *Sir Hans Sloane* gives us the following Account:

It is about the Bulk of a Nutmeg, and triangular. The Shavings of it, drank in cold Water, are highly beneficial for evacuating Poisons by Vomit, as also for the Cure of Bites inflicted by venomous Animals, if, at the same time, a few of the same Shavings are applied to the Bite: These Shavings, also, afford great Relief, when applied to a Part spasmodically constricted, and stop Hæmorrhages when applied to Wounds. In the Year 1692. a Woman, who had, for a long time, been afflicted with Floodings, was restored to perfect Health, by drinking these Shavings in some proper Liquor. The same Year, an Infant, labouring under an highly intense Fever, by drinking these Shavings, had its Disorder forthwith removed in my Presence. They, also, afford Relief to Women in Labour, and facilitate their Delivery. I myself have found from Experience, that this Bean is of singular Service in all Kinds of Repletion, and Crudities of the Stomach, as, also, in a Dysentery and Tenesmus.

Divide each Bean into three Parts; and, when there is a Necessity, put one of these into the Mouth, for a Quarter or half a Quarter of an Hour, swallowing the Saliva discharged. Then drink about two or three Ounces of cold Water, and the Effects of the Medicine will be sensible.

Another Manner of using this Bean is to put it into the concave Part of a hard Shell with a little Water, and rub it up and down. This Water is to be put into a Vessel with some of the Shavings; and the like is to be done, till you have two Ounces of the Water thus prepared, which are to be taken for a Dose.

When this Bean, divided into Pieces, is rubbed in the concave Part of a Shell, with Oil, especially that of Olives, this Oil produces the same Effects with the former Preparation, when drank; and is an excellent Medicine when applied to Wounds, or Members spasmodically constricted.

The most ordinary Method of using this Nut is to put it entire into a little warm Water, till the Water is rendered bitter; and this Infusion is afterwards to be exhibited. Others use a little of the Powder in Substance; others swallow a Piece of the Bean; and others wear a whole Bean, hung about their Necks, by way of Amulet.

When Poison is suspected, and, in Cases where there is an immoderate and tumultuous Conflict of the Spirits, it is to be used without any Regard to Time. In other Diseases, it is to be used in a Morning, fasting. But when the Intention is to vomit, it is most conveniently exhibited an Hour or two after Eating: The Dose is half a Scruple, in Conjunction with other gentle Emetics.

The Powder, an Infusion, or the Oil, of this Bean are exhibited in tertian and quartan Fevers. It is also used for provoking Urine, the Menstrues, and suppressed Labours; for facilitating the Birth, expelling the Secundines, the Fœtus when dead, and Worms; in all which Cases I have found it effectual. It is also exhibited in Colics, Crudities of the Stomach, an injured Concoction, Diarrhoeas, Tenesmus, Obstructions of the Liver and Spleen.

It is produced in the *Philippine* Islands, and those adjacent to them; but we are ignorant what Kind of Plant it grows on; only I learned, from *Raphael de Roa*, a learned Spaniard, who lived long in these Islands, that it was a convolvulose Plant, twisted itself round the tallest Trees, and bore a Fruit as large as a Nutmeg. *Philos. Transact.*

FABA ÆGYPTIA. *Offic. Bod. a Stapel.* 437. *Raii Hist.* 2. 1322. *Faba Ægyptia Dioscoridis & Theophrasti; cujus radix Colocassia dicebatur*. *Park. Theat.* 375. *Faba Ægyptia legitima Dioscoridis*. *Camel. Syllab.* 39. *Faba, sive Cyamus Ægyptia*. *J. B.* 3. 774. *Fructus valde elegans, Faba forte Ægyptia Dioscoridis*. *Ejuld.* 715. *Chab.* 562. *Fabæ Ægyptiæ affinis*. *Ger. Emac.* 1552. *Fabæ Ægyptiæ Dioscoridis affinis*. *C. B. Pin.* 196. *Nymphaea Indica flore purpureo*. *Bont.* 128. *Nymphaea Indica maxima*. *Parad. Bat. Prod.* 358. *Nymphaea Indica Faba Ægyptia dicta, flore incarnato, Nelumbo Zeilonensium*. *Parad. Bat.* 205. *Nymphaea glandifera Indica paludibus gaudens, foliis umbilicatis, amplis, pediculis spinosis, flore roseo purpureo & flore albo*. *Pluk. Almag.* 267. *Nymphaea Madaraspatana Nasurtii Indici scutato folio, solidiori; venter atris, pediculo spinulis asperato*. *Pluk. Phytog.* Tab. 207. *Fig. 5. Tab. 322. Fig. 1. Nymphaea flore suave purpurascete Japonica.*

nica. Breyn. Prod. 2. 77. *Nymphaea affinis glandifera* *Egyptiaca flore pleno pulchro purpureo*. Hist. Oxon. 3. 514. *Nymphaea affinis Malabarica, flore amplo rosaceo, albicante colore*. Commel. in Not. Hort. Mab. Flor. Mal. 191. *Nymphaea affinis Malabarica, folio & flore amplo, colore candido*. Ejusd. *Tamara*. Hor. Mal. 11. 39. Tab. 30. *Bem Tamara*. Ejusd. *Nelumbo Zeylonensium*. Tourn. Inst. 261. *Nelumbo Nymphaea alba Indica maxima, flore albo, fabifera*. Herm. Mus. Zeyl. 66. *Lien Sinarum*. Ogilb. China. 2. 681. EGYPTIAN BEAN. Dale.

The Egyptian Bean, by some called the Pontic Bean, is not only copiously produced in Egypt, but, also, in some marshy Grounds of Asia and Cilicia. It has a very large Leaf, a Stalk a Cubit long, as thick as one's Finger, and a Flower whose Colour resembles that of a Rose, and which is as large again as a Poppy-flower. But, when the Flower falls, it bears small Pods, almost resembling little Bladders, and in which the Bean is somewhat prominent above its Covering, in the Form of a Bubble. They call it *Ciborium*, or *Gibotium*, from the Manner of Planting it; which is, first, to lodge it in a moist Clod, by way of a Case, or Box, which is afterwards immersed in Water. Its Root is thicker than that of the common Reed. This Root is eaten, both raw and boil'd, and is called *Golocasia*. The Bean itself is, also, eaten green; but, when dry, becomes black, and in Bulk exceeds the Grecian Bean. It is of an astringent Quality, and good in Disorders of the Stomach. In consequence of its astringent Nature, an Infusion of its Flower, instead of Polenta, is highly beneficial to dysenteric Patients, and such as labour under the Coeliac Passion. This Flower is, also, used by way of Poul-tice: But the Husks, made into a Decoction, with Mulsum, prove more effectual, if three Cyathi of the Mulsum are exhibited for a Dose. This Bean, if boil'd in Oil of Roses, relieves Pains of the Ears, if dropt into them; because, in the Middle of the Bean, there is a green Substance, highly bitter to the Taste. *Dioscorides*.

The Root of this Bean, triturated, and made up, with Sugar, in form of a Preserve, is exhibited for the Hæmorrhoids. The Juice, extracted from the Flowers, stops immoderate Discharges of the Menfes. Dale from *Henricus Adrianus Van Rheede*.

FABACIUM. A sort of Cake, made of Bean-meal, us'd as an Aliment.

FABAGO. The Name of a Plant; called, also, *Fabago*, *sive Leguminosa*. Park. *Capparis Portulacæ*. C. B. *Fabaginea, sive Peplios Luteianorum*. J. B. *Telephium Dioscoridis & Plinii*. Col. *Capparis, Fabago*. I find no medicinal Virtues attributed to this Plant, except, that the Syrians use it to kill Worms, on account of its Bitterness.

FABARIA. A Name for the ANACAMPSEOS, Orpine; which see.

FABER. The Name of a Fish mentioned by *Columella*, and *Aldrovandus*. *Fabrorum aqua* is Water in which the Smiths quench their Iron.

FABRILIS RUBRICA. See RUBRICA FABRILIS.

FACH. The Name of a Turkish Medicine, celebrated for its Efficacy against Poisons.

FACIES. The Face. See CAPUT.

PROGNOSTICS from the FACE.

Hippocrates, in his Book of *Prognostics*, directs us, "in acute Diseases, to consider, first, the Countenance of the sick Person, as whether it be like that of Persons in Health, or, what is more to be regarded, the same as when himself was in a sound State; for, if it appears in this Manner, it affords the most hopeful Prognostic; as the very Reverse to this carries the most Danger in it." *Galen*, commenting on this Passage, says, "that the Parts affected are to be compared with the same when sound, and, if they appear alike, it is a good Sign; if otherwise, the contrary." In short, if the Face, in acute Distempers, appears like that of sound Persons, we have good Grounds to hope for a Recovery, because it signifies, that the Disease is neither violent, nor very malignant. But from an Alteration of the Countenance, as to a State of Extenuation, and that not in the Beginning, but in the gradual Progress, nothing of Certainty can be predicted, any more than if such a Change should be effected, not by the Disease, but by some other extrinsic Cause; as, for Instance, by an immoderate Passion of the Mind, Want of Sleep, Flux of the Belly, Abstinence, or the like; which frequently cause an Extenuation of the Face; which, for that Reason, in such Cases, can afford no certain Prognostic.

As to the Colour; a florid Colour of the Face is sometimes good, as when it indicates a future Hæmorrhage at the Nose; and is the more to be depended upon, if attended with other Signs prognosticating the same Event, according to the Judgment of *Hippocrates*, *Conc. Prenot.* 142. "Persons under a Fever, says that Author, if they appear red in the Face, and are, besides, molested with a violent Pain of the Head, ac-

"compained with an high Pulse, are generally seized with an Hæmorrhage."

But all the other concomitant Symptoms deserve, also, our Attention; such as Splendors, Flashes of Light, or Mists, passing before the Eyes; besides a Redness of the Face, and; frequently, a tense and gravative Pain of the Head, a Tenseness of the Hypochondria without Pain; and a Difficulty of Respiration. From such Signs *Galen* predicted an Hæmorrhage in a young Man at Rome, in the Presence of many Roman Physicians, as he relates, *Lib. de Præfag. ad Posthum.* "While the Physicians, says he, were in Surprise, the Patient raised himself up; as though he would throw himself out of Bed; and being asked, why he would attempt to run out of Bed; when there was nothing present to excite him, he answer'd; that he was frighted at the Sight of a Serpent, of a red Colour, creeping over the Ceiling, which, if it should chance to slip, would tumble down upon him; and, for that Reason, he was eager to fly out of Bed. The rest, who attended him, did not imagine; that this Phænomenon was of any Signification towards a future Hæmorrhage; but I, seriously considering every other Symptom, and particularly perceiving the Redness, which before, though obscurely, extended from the Right Side of the Nose to the Cheek, to be very much increased, regarded the same as a manifest Indication of an approaching Hæmorrhage at the Right Nostril." But, in predicting an Hæmorrhage, we are to consider all the other Signs, as well as Redness of the Face, and especially those of Concoction. For, in a crude Disease, there rarely happens an Eruption of Blood, but what distils by Drops; which Kind of Evacuation in burning Fevers, and most of all in Fevers attended with a Phrensy, is much suspected. To this we may add, that a Redness of the Face is, sometimes, a Prognostic of an Abscess behind the Ears, or the Parotides; of which *Hippocrates*, according to *Galen*, is to be understood, 6 *Epid. Sect. 2. T. 11.* where, after describing some Symptoms, which prognosticated a Defluxion on the Limbs, he says, "that most of those [whose Case was before described], who were, by Nature, of a pretty white Skin, were intensely red in the Face, and yet had little or no Hæmorrhage from the Nose." *Galen*, commenting on this Place, says, that "an intense Redness of the Face, under a long and favourable Illness, gives Expectations of a Crisis, by an Abscess, or Defluxion upon some of the Limbs, unless prevented by a copious Hæmorrhage from the Nose." In the same Sense are we to understand the Author of 1 *Prorrhet.* 165. when he tells us, "that they who labour under a Coma, with a Restlessness, a Pain in the Hypochondria, and slight Vomitings, give Indications of succeeding Parotides; but first we are to consider the Habit of the Face." Here *Galen*, in his Comment, says, "Before the Generation of the Parotides, we are to regard the Signs afforded by the Face; such are Redness, a preternatural Tumor, Humidness of the Eyes, Dimness of the Sight, and the like." From the Premises, we may infer, that a Redness of the Face is often good by Accident; and may be called a critical Sign, whenever it precedes an Hæmorrhage from the Nose. But this Habit of the Face appears principally in the Height of the Fits, and especially in a Synochus, and a burning Fever, or where there is an Inflammation of the Lungs, in which the Cheeks, according to *Hippocrates*, in his *Prognostics*, contract a Redness. However, there is nothing to be predicted, with Certainty, from this Habit of the Face alone; unless its Indication be confirm'd by some other Signs, either good or bad. What has been said, relates to a good Face: We now proceed to inquire, what bad Prognostics may be drawn from an Alteration in that Part.

First, then, *Hippocrates*, in his *Prognostics*, assures us, that, in the Beginning of a Disease, a Face which, without the Concurrence of some external Causes, becomes unlike what it was in Health, is a bad Sign, and, if it be quite the reverse, a pernicious one; and in acute Distempers portending nothing but Destruction. Such is that Habit of Face, in which, as *Hippocrates*, in the Beginning of his *Prognostics*, describes it, "the Nose is sharp, the Eyes hollow, the Temples sunk, the Ears cold and contracted, and their Lobes inverted, the Skin about the Forehead hard, tense, and dry, and the whole Countenance of a pale, greenish, black, livid, or leaden Colour." This is what Physicians justly call a *cadaverous* Face; and if it appears in the Beginning of an acute Disease, that is to say, within three Days, it indicates nothing but Death.

The Face, in some chronical Distempers, from a Refrigeration of the Liver, and a depraved Sanguification, is observed to be tumid, just as it is in a Phthisis, and an Empyema; in which Cases it generally appears in that manner on the Patients, when dying. As to a red Face, when of bad Indication, the Author of the *Prorrhetica*, *Lib. 1. T. 49.* says, "that a good Colour in the Face, accompany'd with a sorrowful Aspect, is a bad Sign," as it indicates, according to *Galen*, in his Comment on the Place, a hot Affection scorching the Blood; whence

Whence such a Floridness of the Countenance is, by some, supposed proper to a melancholy Affection. But, in this Redness of the Face, we are to have regard to other concomitant Signs; and, if they are bad, it is pernicious; for a red Face, attended with bad Signs, sometimes indicates a Phrensy, and such a one as is fatal, and ends in Convulsions: Thus a Redness of the Countenance, with a fierce Look, a Delirium, or some phrenetic Symptom, is mortal. Of such Patients we read, *Coac.* 162. "They, says the Author, who labour under a Cephalalgia, and a Catochus, accompany'd with a Delirium, a Constipation of the Belly, a fierce Look, and a florid Countenance, are affected with an Opisthotonos;" which is a sort of Convulsion that draws the Head backwards, and fixes it on the Scapulae, and is a mortal Symptom. But if the Face be not only hot, but of a fiery Red, it is still worse, if attended with bad Signs. Of this Case, also, the Author of the *Coac.* 7. speaks in the following Manner: "A Rigor, attended with a Coma, is not without Danger; and if the Face be also of a Flame-colour, and in a Sweat, it indicates a Malignity." And more fully to the Purpose is it express'd, *1 Prorrh.* 67. "A comatous Rigor carries Danger in it, and, if attended with a Flame-colour of the Face, and a Sweat, is destructive." *Galen*, in his Comment hereon, says, "We know, that a Flame-colour of the Face, attended with a Sweat, though without a Rigor, is a bad Indication, because a Sweat is one of the critical Signs; and therefore, if it determines nothing, shews the Malignity of the Disease." A fiery Face then, with some critical Sign, as a Sweat, Vomiting, Flux of the Belly, or an Hemorrhage, indicates Malignity, and is generally mortal. We are to observe also, on this Head, that the Face appears red in pulmonary Disorders, but in these the Cheeks principally contract a Redness; for which Reason, when this Symptom appears in Fevers, we justly suspect a Peripneumony, or an Empyema. Hence, we are told by *Hippocrates*, *Prognost.* that a Redness of the Cheeks is one Sign of an Empyema. And this Colour, attended with bad Signs, and especially bad critical Signs, that is, such Signs as determine nothing, presages Death. The Fate of the Patient, under such Circumstances, is pronounced by the Author of the *Coac.* 67. in the following Words: "They, says he, who in a Fever labour under an Aversion to Food, with Sweats, and have a good Colour in the Face, accompany'd with a Looseness, and a Cardialgia, after a long Illness, die after the Manner of those who are affected with a Peripneumony, or other pulmonary Disorders." Such was the Fate of the Wife of *Polycrates*, *7 Epid. Text.* 9. "Who, under a Fever, was affected from the very Beginning with a Cough, and Spitting, like those in an Empyema, accompany'd with a Hoarseness and Wheezing in the Aspera Arteria, and Fauces. Her Face was of a good Colour, and there was a Redness in her Cheeks, tho' not intense, but moderately florid." This Woman was first affected with a Peripneumony, then with an Empyema, and dy'd at last of a Phthisis. A Redness of the Cheeks, therefore, in long and slow Fevers, is an Indication either of a Peripneumony, or an Empyema, which end in a Consumption, if attended with a dry Cough, tho' never so slight; provided, also, that the Patient be subject to Exacerbations or Inequalities of Heat in the Fever, tho' never wholly free from it.

FACINUM is Metal, or Metallic Ore. *Rulandus*.

FACULTAS, a Faculty, is the Power of performing any Action. Thus Medicines are said to have a Faculty of Purging, Vomiting, or of performing any Action in the Body. In Physiology it imports just the same. Thus the Animal Faculty is that Power in the Body by which all the Animal Actions are perform'd; the Vegetative Faculty is that Power by which Generation, Nutrition, and Accretion are carried on; and the natural Faculty is that, by which the natural Actions are perform'd. Every particular Organ is also said to have their Faculties, or Powers of Acting; as the retentive, expulsive, attractive, and many other Faculties.

FÆCULA is a Medicine which consists of the Fæces of Vegetable Juices, principally those of Roots. The Manner of making a Fæcula may be readily comprehended by the following Example from the College Dispensatory.

FÆCULA BRYONIAE.

The Fæcula of Bryony.

Take of the Roots of Bryony, any Quantity: Let them be scraped small with a Knife, and squeeze out their Juice with a Press, after a few Hours, in Vessels that are without any Motion: There will be a very white Sediment like Starch, and it must be dried in glazed Pans, after the watery Part is poured off by Inclination.

After the same Manner is prepared the Fæcula of Arum, wild Radish, Orrice, and the like.

FÆX is properly the Sediment, Lees, or Grounds, of any fermented Liquor; but in Medicine, it is generally understood of Wine; tho' the Sediment of any Fluid is sometimes call'd

Fæx, or Fæces, by which, also, sometimes the Excrements of the Belly are understood.

As to the Medicinal Virtues of the Fæces or Lees of Wine, *Discorides*, *L. 5. C.* 132. says, that those of old Italian Wine are to be prefer'd; for the Sediments of Vinegar are possess'd of stronger Qualities. These Fæces are to be burn'd like the Alcyonium, after they are diligently dried. Some put them into a new earthen Pot, and burn them over a brisk Fire, till they are red-hot. Others cover a Lump of them over with live Coals, till they are also red-hot. 'Tis a Sign, that they are sufficiently burnt, when they assume a light whitish Colour, and seem to burn the Tongue, when apply'd to it. The Lees of Vinegar are to be burn'd in the same manner. The Lees of Wine are highly caustic, detergent, cicatrizing, astringent, corroding, and drying. They must be us'd recent, because they quickly evaporate, and lose their Strength; for which Reason they must be kept in a close-stopt Vessel. Those Lees which have not been burn'd, either by themselves, or in Conjunction with Myrrh, check œdematous Swellings, if apply'd to them, as also Defluxions of the Stomach, and Intestines. If apply'd to the Abdomen and Pudenda of Women, they stop immoderate Discharges of the Menses. They discuss those Tumors call'd Pani, which are not exulcerated, as also Tubercles. Breasts render'd turgid, and painfully distended, with Milk, are reliev'd by being anointed with them, in Conjunction with Vinegar. But the burn'd Lees, in Conjunction with Resin, remove Roughness of the Nails; and the Hairs, if anointed with them, together with a little of the Oil of Mastich, become yellow in a Night's time. When wash'd, they are mix'd with Medicines for the Eyes, such as Spodium; and, when us'd for this Intention, remove Films and Specks.

FAGARA, Offic. Ger. 1365. Emac. 1548. *Fagara major*, *J. B.* 1. 350. *Chab.* 26. *Raii Hist.* 2. 1814. *Fagara seu Cayutana Luzonis*, *Camel.* Syllab. 74. *Cubebis affinis Fagara major*, *C. B.* Pin. 412. *Dale*.

It is found in the *Philippine* Islands. The Part used in Medicine is the Berries, and especially their outer Rind, which is tender and blackish, and of an aromatic, and somewhat acrimonious Taste. These Berries, when mature, break, and yield a black, shining, and pretty solid Kernel, void of Taste and Smell.

The Berries are heating and drying, and are good for a cold Stomach and Liver, help to promote Concoction, and bind the Belly. *Dale* from *Avicenna*.

FAGONIA. This Plant was so named by *Dr. Tournefort*, in Honour to *Dr. Fagon*, who was Superintendant of the Royal Garden at *Paris*.

The Characters are;

The Flower consists of many Leaves, which are placed orbicularly, and expand in form of a Rose; out of whose Centre rises the Pointal, which afterward becomes a chaneled round pointed Fruit, consisting of many Cells, and composed of many Husks, each containing one roundish Seed.

Miller takes notice of two Species of this Plant, neither of which has any Medicinal Virtues ascrib'd to it at present.

FAGOPYRUM.

The Characters are;

The Root is fibrous and annular; the Calyx consists of five Petals, which by their Colour, and radiated Expansion, resemble the Petals of Flowers; the Calyx, when ripe, forms Capsules for the Seed. The Flowers grow in Spikes, or Tufts, or Bunches, and are furnished with eight Stamina. The Ovary grows in the Bottom of the Calyx, in a Placenta elegantly adorn'd with Globules rang'd in a Circle; and is of a triangular Figure, producing three Pointals, and becoming a triangular, blackish, farinaceous Seed.

Boerhaave mentions two Species of this Plant; which are,

1. *Fagopyrum*; vulgare; erectum, *Elem. Bot.* 412. *Tourn. Inst.* 511. *Boerb. Ind.* 2. 88. *Buxb.* 108. *Fagopyrum*, Offic. *Raii Hist.* 1. 182. *Synop.* 57. *Schw.* 273. *Fagopyrum*, Hist. *Oxon.* 2. 590. *Volck.* 160. *Fagotriticum*, *J. B.* 2. 993. *Chab.* 312. *Fagopyron*, Ger. 82. *Emac.* 89. *Park.* 1141. *Frumen-tum Saracenicum*, *Herm. Hort. Lugd. Bat.* 263. *Erysimum Theophrasti folio hederaceo*, *C. B.* 27. BUCKWHEAT, OR BRANK.

It is sown in Fields, and flowers in July. It is less nutritive than Barley or Rye, tho' more than Panic or Millet. Ptilan and Broths prepared of the same, unhusked, are easily digested, and generate a moderate Quantity of Blood, and are good for those who are afflicted with a Cough, or a Dysury. *Dale* from *Schroder*.

It is not certain where it grows spontaneously: It is said to be originally of *Africa*, but it thrives in almost every Soil, delights in wet Weather, soon springs up, and quickly ripens. The most skilful Botanists are of Opinion, that this Plant was unknown, and consequently unnamed, by the Antients. The Peasants, says *Matthioli*, make Bread of this Grain, and thick Broths, which are not ungrateful when well made. *Dodoneus* says, that Puddings and Cakes, made of the Flour of *Fagopyrum*, are

are easily concocted, are quick in Passage, and afford, tho' very little, yet not bad Nutriment. Bread, which sometimes in a Dearth is made thereof, or with a Mixture of it, is of a humid Quality, and quicker in Passage, but more flatulent, than Rye. The green Herb, before the Seed is ripe, is good to feed Cattle; and the Seed very soon fattens Poultry. *Ray, Hist. Plant.*

2. *Fagopyrum*; vulgare; scandens. T. 511. COMMON CREEPING BUCKWHEAT. *Boerb. Ind. alt. Plant. Vol. 2. p. 88.*

FAGOTRITICUM. See FAGOPYRUM.

FAGUS.

The Characters are;

The Leaves much resemble those of the Hornbeam; the Flower is masculine; amentaceous, glomerated, consisting of Stamina, which arise from a Bell-shaped Calyx. The Fruit is produced at a remote Distance from the Flower, on the same Tree; and is a callous Substance, acuminate, gaping with a quadrifid Apex, and inclosing two triangular Seeds, or Nuts. *Boerhaave, Index alter, Pars 2. p. 178.*

Boerhaave mentions but one Species of this Plant; which is, *Fagus*, C. B. Pin. 419. *Raii Hist. 2. 1381. Synop. 3. 419. Ger. 1255. Emac. 1444. Park: Theat. 1403. Aldrov. Dendr. 240. Jonsf. Dendr. 207. Mont. Ind. 42. Tourn. Inst. 584. Elem. Bot. 456. Boerb. Ind. A. 2. 178: Mer. Pin. 38. Merc. Bot. 1. 35. Phyt. Brit. 40. Dill. Cat. Giff. 55. Rupp. Flor. Jen. 264. Buxb. 108. Chab. 57. Fagus Latinorum, Oxya Græcorum, J. B. 1. 117. THE BEECH-TREE.*

Tragus affirms he has cured Scabs, Itch, Tetters, and other Itchings of the Skin, with the Water found in the Clefts of old Beech-trees. *Martyn's Tournefort.*

It grows frequently in the Woods and Hedges in the Southern Parts of England, and the Mast is in Use, which agrees in Properties and Virtues with the Chestnut. Its Fruit and Seeds are good to expel Gravel and Mucus from the Kidneys.

Bellonius, *Dalechampius*, and *J. Bauhine*, very fully prove, that this Tree, and not the *quyū*, *Phege*, is the *Oxyas* of the Greeks. This they infer from comparing the Description of the *Oxyas* in *Theophrastus*, with that of the *Fagus* in *Pliny*; which agree in so many Things, that there is no Doubt, but the latter transcrib'd his Description from the other; to which, for a further Proof, we may add, that *Bellonius* observes, that the *Fagus* in Mount *Athos* is still to this Day called *Oxya*, and, in *Macedonia*, *Oxyas*. It delights to grow on Hills, but such as are moist; and loves a chalky and rocky Soil; and is found as frequently in England, as in Germany; which makes it the more surprising, that *Cæsar*, in his Commentaries, should deny the Beech to be of British Growth.

The fresh Leaves of the Beech, bruised, and apply'd to hot Tumors, discuss them, and corroborate the Limbs, affected with a Numbness, as we are assured by *Matthioli*, who also affirms, that, being chewed, they are an excellent Remedy for the Diseases of the Lips and Gums. The Mast of Beech, burnt, and mixed with the Fat of Swine, and apply'd hot to the Loins, is affirm'd by some to be good for the Stone. Eaten plentifully, especially green, and before it is dry'd, it is observ'd to disturb the Head, like Solium, or Darnel; and it is affirm'd, that Swine, by eating it, are much disorder'd, till at length they fall asleep; and the Fat of those which are fed with the Mast is commonly thought to be the softer, and more subject to be liquefy'd in the Dressing; and the same Effect is said to follow from their feeding on Acorns. *Ray, Hist. Plant.*

FALCANOS. Arsenic. *Rulandus.*

FALCIFORMIS. An Epithet for a Process of the *Dura Mater*, call'd, also, *Falx*. See CAPUT.

FALCINELLUS, or *Falcata*. A sort of Bird mention'd by *Johnson*, which is so call'd from the Curvature of its Beak. It is a sort of Heron. The Fat is recommended as good to fortify the Nerves, as a Resolvent, and proper to cure *Nubecule* of the Eyes.

FALCO. The Falcon. A sort of Hawk. The Fat is of Use in Distempers of the Eyes, to dissolve Tumors, and to mollify and strengthen the Nerves. The Dung is a Dissolvent, being apply'd to the diseased Part; it may also be taken inwardly, in order to provoke Sweat; its Flesh is esteemed good against Distempers of the Brain. *Lemery des Drogues.*

FALDELLA. Contorted Lint, us'd by way of Bolster, or Compress.

FALERNUM. Falernian Wine, the same as AMINÆUM; which see.

FALSODICTAMNUM. See PSEUDODICTAMNUS.

FALTRANC, from the *High-Dutch*, *fallen*, to fall, and *Tranck*, Drink, that is to say, a Drink for such as have receiv'd a Fall, is a Drink prepared of the principal vulnerary Herbs, pitch'd and dry'd for Decoction, or Infusion, particularly the Leaves of Periwinkle, Sanicle, Paul's Betony, Bugle, Lions-foot, St. John's-wort, Harts-tongue, the different Sorts of Maidenhair, Lungwort, Mugwort, Betony, Vervain, Figwort, Agrimony, the lesser Centaury, Mouse-ear, Mint, and

the like; for there is a very great Number of vulnerary Herbs. The choicest are those which grow on the *Alps*, and the Mountains of *Switzerland*, because they are most exposed to the Sun; and they ought to be gather'd when in Flower, and in their Vigour. The best way to dry them is, first to distribute them into small Parcels, then wrap them in brown Paper, and hang them up against Boards, and there let them dry; by which means they will preserve their Colour, and their Virtues, against the Injuries of the Air, and be secur'd from Dust, and the Dung of Flies.

Faltranc is proper for those who have fallen from an Eminence, for the Asthma, Phthisis, intermittent Fevers, to remove Obstructions; provoke Urine, for inveterate Rheums, and the Jaundice. Some add Wormwood, and the Root of Gentian; to make it the more bitter, and to excite an Appetite. Others, in order to communicate to it a cephalic Virtue, mix therewith the Leaves of Tea-sage, Cowslips, Marjoram, and Basil; it is drank hot after the manner of Tea, first putting therein a little Honey or Sugar. *Lemery des Drogues.*

FALX. See FALCIFORMIS, and CAPUT.

FARCIMALIS. The same as ALLANTOIS; which see.

FARCTURA, in Pharmacy, is the stuffing any exenterated Animal, or excavated Fruit, with medicinal Ingredients.

FARFARA. A Name for the *Tussilago*; *vulgaris*.

FARFARUS. A Name for the white Poplar. *Blancard.*

FARINA. Meal.

Rye-meal well dry'd, mix'd with common Salt, and apply'd warm with Elder-flowers to an Erysipelas, is an excellent Dis-cutient; and the same Meal, mix'd with Honey, contributes effectually to the Maturation of Apostemata, and is daily us'd with singular Success for that Purpose. Bran is principally commendable for its absterfve Quality; and its Power of removing Sweat and Sordes of the Head: A Bath, prepar'd of Bran and sweet Water, adds fresh Degrees of Strength to the Joints, when weaken'd by whatever Cause; and, if Chamomile-flowers are added; it may be us'd as an *Euporiston*, or Remedy easily prepar'd, in all Cases where Bathing is necessary. I have seen a heavy Pain of the Head, accompany'd with Tension, and a Ringing of the Ears, remov'd by rubbing the Head with warm wheaten Bran. Barley boil'd in Water till it bursts, with an Addition of the Roots of Vipers-grass, and Citron-juice, affords an excellent Decoction for allaying Heat, and quenching Thirst in Fevers, especially of the bilious Kind. This same Decoction, with an Addition of Figs, is of singular Efficacy in almost all acute Disorders, and Indispositions of the Breast, where the Acrimony of the Humours is to be corrected, and Expectoration promoted. Besides, of this Decoction of Barley, and sweet Almonds, some prepare an Emulsion, which in the Small-pox, even of the confluent Kind affords singular Relief, and comes next to the *Hydrogala*, or Preparation of Milk and Water, liberal Draughts of which *Sydenham* found so beneficial in the Small-pox of a confluent Kind from the Beginning accompanied with a copious Discharge of Saliva. But this Decoction of Barley is still more efficacious and beneficial in the Small-pox, and other Disorders, if proper Quantities of calcin'd Hartshorn, and Syrup of Orange-juice, are added to it. Of how great Importance *Hippocrates* thought Ptisan in the Cure of acute Disorders, is sufficiently obvious from his Writings, and especially from his *Book de Ratione Vitis in Acutis*, where he uses these Words: "Ptisan seems justly preferable, in all acute Disorders, to all other frumentaceous Preparations; and I approve of the Practice of those who give it the Preference; for it is gently viscid, pleasant, lubricating, moderately moistening, proper for extinguishing Thirst, and easily carry'd off, and wash'd away, if there should be a Necessity for it. Besides, it neither renders the Patient costive, excites Gripes, nor distends and tumefies the Abdomen." Hence 'tis obvious, what happy Effects the Antients expected from Ptisan, in the Cure of acute Diseases. But they prepar'd their Ptisan sometimes in one, and sometimes in another manner; for sometimes they us'd decorticated Barley, boil'd for a sufficient time; and this they call'd the Whole of the Ptisan: At other times they sapt the strain'd Liquor, or, as *Celsus* calls it, the Cream of Ptisan: Sometimes, also, they render'd the Body soluble, by injecting this Cream by way of Clyster. According to *Galen*, they took ten Parts of Water to one of Ptisan; and, after these were boil'd, they added a little Oil, Vinegar, and Salt. But the Method in which the Antients us'd their Ptisan, is a Circumstance, with respect to which we are pretty much in the Dark, if we may believe *Langius*, in *Epist. Med. Lib. 1. Epist. 57*. As for Oats, a Decoction of them with Water, adding the Roots of Succory, Poppy-flowers, Nitre, and Honey, us'd as common Drink, is of so great Efficacy in all acute Disorders, and especially in arthritic Pains, that it produces far happier Effects than the most celebrated Medicines. Besides, a Decoction of decorticated Oats is of singular Service, as common Drink, in all those Disorders where the Blood, or Humours, in the Primæ Viæ, are of too acrimonious a Nature, such as Coughs, Catarrhs, Coryzas, Purple-fevers, Small-pox, Measles, choleric bilious Fevers, Fluxes arising from a Redundance of acrid Bile,

and Corrosions of the Intestines. In this Decoction I often boil a few Pugils of common Chamomile-flowers, adding Sugar, and Oil of sweet Almonds. This Preparation I have with great Success recommended in the foregoing Diseases, not only to be drank, but also to be injected by way of Clyster, since by its viscid Nature it excellently obtunds the Acrimony of the Humours. *Hoffman de Præstantia Remediorum Domesticorum.*

FARRA. The Name of a River Fish, mentioned by *Johnston, Rondeletius, and Lemery.* It is somewhat like a Trout, is esteem'd nutritive, and good for Disorders of the Lungs and Breast.

FARRAGO. A Name for the second Species of *ALCYONIUM*; which see.

FARREA NUBES. The Name of a cutaneous Distemper, call'd also *PITYRIASIS*, or *FURFUR*.

FASCIA LATA. The Name of a Muscle, or muscular Ligament.

The *Fascia Lata* is a muscular Ligament, very considerable both for its Extent and Strength, being made up principally of two Planes of Fibres, of which the external are more or less longitudinal; the internal more or less transverse. It is further strengthened in some Places by a great Number of other Fibres, which augment its Thickness, and form particular Expansions. The transverse Fibres are much stronger than the longitudinal.

It is fixed above to the Edge of the *Crista* of the *Os Ilium*, from the large Tuberosity, to the anterior superior Spine, to the Ligamentum Fallopii, and to the Aponeurosis of the *Obliquus Externus* of the Abdomen, on which it runs up by a thin Lamina. It is likewise fixed in the lateral inferior Part of the *Os Sacrum*, and to the neighbouring Parts of the Ligaments, by which that Bone is connected to the Bones of the *Ilium* and *Ischium*.

From thence it advances over the Glutæi and Thigh, between the *Membrana Adiposa*, and Muscles, all the Way to the anterior and outer Parts of the Knee. It is very thin on the Patella, but may be separated from it. It is also continued over the external anterior Part of the Tibia, covering the Muscles which lie there; and is strongly inserted in the Head and *Crista* of that Bone, and in the upper Part of the Fibula.

It sends off Elongations, which, like so many Septa, run in between the Muscles, and sometimes meet in such a manner, as to form Vaginae. It is strongest on the anterior and outer Parts of the Thigh, growing gradually thinner on the inner and back Parts.

It is strongly inserted in the *Linea Femoris Aspera*, between the *Vastus externus*, and *Biceps*, forming a sort of Septum between these Muscles. It furnishes particular Vaginae to the Muscles, which lie on the Inside of the Thigh; and, tho' these Vaginae are thin, they are nevertheless pretty strong, being principally made up of transverse Fibres.

The *Musculus Fasciæ Latæ* is a small and pretty long Muscle, situated a little obliquely upward and downward, on the fore Part of the Hip.

It is fixed above to the Outside of the anterior superior Spine of the *Os Ilium*, between the Insertions of the *Glutæus Medius*, and *Sartorius*. From thence its fleshy Fibres run down a little obliquely backward, forming a very flat Body, four Fingers-breadth in Length, and two in Breadth.

This Body lies between two Lamine of the *Fascia Lata*, and is inserted therein by short tendinous Fibres, which disappear at that Place where the *Fascia* adheres to the great Trochanter and Tendon of the *Glutæus Maximus*. We ought by no means, therefore, to look upon the *Fascia* as a tendinous Expansion of this Muscle. *Winslow's Anatomy.*

FASCIA, in Surgery, is a Fillet, Roller, or Bandage. It is extremely difficult to form an Idea of Bandages, without seeing them made. Learners, however, may reap some Advantages from Descriptions and Figures. I have treated of Bandages in general, under the Article *DELIQATIO*, and now proceed to particular Bandages.

Of Bandages belonging to the Head; and, first, of the triangular Bandage.

It is plain from the Writings of *Galen* and others, that the Antients had a surprising Variety of Bandages, for the various Disorders of the Head. But, as so great a Number seem'd useless, *Perduc, Le Clerc*, and other Moderns, have, for the greater Ease of Learners, recommended such only as are adapted to the several Disorders and Operations of the Part, and rejected most of those that are obsolete and unnecessary. The first is the *triangular Kerchief*: This is made of a square Handkerchief, Napkin, or any other Piece of square Linen, folded in the Form of a Triangle, and the Middle of it applied to the Forehead, bringing the two Ends round the Head, and tying them behind, as is commonly practis'd by Men in hot Weather. See *Tab. 58. Fig. 1. a, a, b.* The *French* call it the *Couvre chef en triangle*. As the Application is easy, so are the Uses numberless: Nor is it serviceable in Wounds only, but may be successfully applied to almost any Disorders of the

Head; and serves, also, to retain any Dressings put to the Eyes. But if the Knot *b*, at the Occiput, proves troublesome, it may be brought round to the Forehead, and there pin'd.

Of the grand Kerchief.

The next and larger Bandage, belonging to the Head, is termed the *Grand Kerchief* (*le grand Couvre-chef*). This is generally used after trepanning, or boring the Cranium; and, in dangerous Wounds of the Head, defends it from the Cold. See *Tab. 24. Fig. 1. A.*

It is commonly made of a Napkin, or some soft Piece of Linen, in a square Form: It is doubled in such a Manner, that the lower Part is about four Fingers-breadth wider than the upper: The middle Part of this Cloth is placed so upon the Head, that the fore Part may reach almost as far as the Eyes; the four Extremities or Corners of it hanging over the Cheeks; the two Corners of the upper, or narrower Part, are to be tied under the Chin, at the same time the Corners of the lower or wider Part are to be brought towards the back Part of the Head, and tied together, or fastened with a Needle and Thread: The fore Part, which was extended towards the Eyes, is turned back as far as the Crown of the Head; the two Parts that hang over the Neck, almost to the Shoulders, are also to be turned back, and fastened behind the Ears, with a Needle and Thread. This Kind of Bandage, when it is neatly made, sticks close to the Head, and is an excellent Contrivance to preserve it from the Injuries it might receive from cold Air; for which Reason it is, at present, in great Use and Esteem: You may, in some measure, form an Idea of the Appearance it makes upon the Head, by consulting *Tab. 24. Fig. 1. A.* But the Method of applying it must be learnt from some skilful Artift; for it will easily appear from this one Instance, how difficult it is to describe the Art of applying Bandages by Words, and how impossible it is to learn this Art from such Descriptions.

Of the Sling with four Heads.

The third is termed, *The Sling with four Heads*, *Tab. 23. Fig. d.* Its Length, in my Opinion, ought to be four Feet, and its Breadth six or eight Fingers; though some will allow it to be but three Feet long; but this depends upon the Size of the Head, and Method of applying it. Its Use is to retain the Dressings on a Wound of the Head, more particularly in hot Countries and Seasons, where the other two, especially the *grand Kerchief*, would be troublesome to the Patient, and still more so, if it was prepared and bound in the Manner described by some. This should be slit at each End, so as to leave only one or two Hands-breadth in the Middle undivided. (See *Tab. 23. Fig. d.*) If it is to be applied, for Example, to a Wound in the upper Part of the Head, the middle or entire Piece must be fix'd upon the Dressings, and there held by the Hand of an Assistant, to prevent its slipping: Then the two posterior Heads must be brought under the Chin, and tied, as in *Tab. 24. Fig. 1.*; or, if it be long enough, carried back from thence to the Neck, and there tied or pin'd: The two foremost Heads must be tied under the Occiput; or, if there is Length enough, they may cross each other there, like an X; and then be carried up over the Ears to the Forehead, or brought back again to the Chin, and there fastened by a Knot.

Of the Sling with six Heads.

Some use a *Sling with six Heads*, about three Feet long, and twelve or fourteen Inches broad, which takes in the whole Head. You may form some Idea of this, from *Tab. 58. Fig. 19.* supposing there were no Apertures. The Middle of this is applied to the Vertex, and held by an Assistant: Then the two middle Heads are to be tied under the Chin, (see *Tab. 58. Fig. 2. a, a, a*) the two anterior tied or pin'd under the Occiput *b*, and the posterior upon the Forehead *c, c, c*, with a Knot *d*. Some will have it larger, and chuse to begin with the posterior Heads; but this is not material. As this Bandage is so serviceable in retaining the Dressings upon any Part of the Head, and sticks so close, I think it ought not to be rejected.

Of the uniting Bandage.

The fourth is the *uniting* or *incarnating* Bandage. It is about eight Feet long, and two Inches broad: It has in the Middle a straight Slit, about the Length of three or four Fingers-breadth. (See *Tab. 23. Fig. f.*) It is rolled up at each End. The principal Use of it is, to close the Lips of a rectilinear Wound in the Forehead, Vertex, or any other Part, as in *Tab. 58. Fig. 3. and 4. a, a*; but more particularly in the Eyebrows, when it must be narrower. The Method of applying it is this: The Wound being dressed with proper Balsams, and Plaisters, and a narrow Compress laid on each Side, the slit Part of the Bandage *b* must be fixed near the Wound, in such a Manner, that one of its Ends *c* being carried round the Head, and its Roller passed through the Slit, both of them

d d are drawn tight; and the Lips of the Wound closed. Each Roller being then exchanged, and crossed upon the Forehead and Occiput, as in *Fig. 3.* and under the Chin, and upon the Vertex, as in *Fig. 4.* as long as the Bandage will permit; each End must be sew'd or pin'd: If the Lips of the Wound cannot be thus drawn together, it will not be amiss to make another Slit in a convenient Part, exchanging and passing your Rollers as before; this will greatly conduce to the Closure of the Wound, and Uniformity of the *Cicatrix*. This should not be remov'd for six or eight Days, or longer, unless any extraordinary Symptoms require it.

N. B. In *Tab. 58. Fig. 3.* and *4.* at *a, a,* a rectilinear Wound ought to have been express'd, reaching from the Forehead towards the Nose, which the Engraver has omitted.

Of the Bandage after Bleeding in the Forehead.

The Bandage used after Bleeding in the Forehead, is about twelve Feet long, and two Fingers broad. It has one Head, but there are two Ways of applying it; the first called *Discrimen*, the other *Scapha*.

The *Discrimen* is thus: The Bandage is held with the Left Thumb, upon a Compress, covering the Wound *a, Fig. 5.* so that about a Foot of it hangs down from the Forehead over the Face; then the Roller is carried round the Temples and Occiput, in the circular Direction *b, b,* till it returns to *a*; then the Part, which hung down, is turned back upon the Forehead, Vertex, and sagittal Suture *c,* and brought to the Occiput; and there, after rolling it several times about the Head, pin'd or sew'd.

The *Scapha* is carried round the Head in an oblique Circle; from the Forehead it passes between the Ear and Vertex, as *Fig. 6. a, b,* to the Occiput, and then returns by the opposite Side, under the left Ear *b* to the Forehead; then the Part, which hung down, is obliquely reflected on the other Side *c,* forming a kind of Angle there, and upon the Forehead, so that the Parts *a, b, c,* invest the Head like a Boat: Hence it is termed *Scapha*. The Remainder must be carried circularly round the Temples and Occiput, and then fastened.

Of the Bandage for Arteriotomy.

This Bandage for the Head is called *Knotted*, from its many Crossings on the Temples, likewise *Stellar* or *Solar* (*Gall. le Solaire*) from its Resemblance of the Sun or a Star. It is very serviceable when the temporal Artery is divided, either in *Arteriotomy*, or by an accidental Wound, and seldom fails to suppress an Hæmorrhage. It should be twenty or twenty-four Feet long, two Fingers broad, and double-headed. The Method of applying it is thus: The Wound must be covered with three thick Compresses, each larger than the other; then the Middle is to be placed in such a Manner upon the sound Temple opposite to the Wound, (*Tab. 58. Fig. 7.*) that one Head of it must be brought round the Forehead *a,* the other round the Occiput *b,* till they meet at the Part affected *c*; and there crossing each other, and forming a sort of Knot, one is to be carried under the Chin *d,* and the other over the Vertex *e,* crossing again upon the sound Temple, whence they are carried round the Forehead and Occiput to the Compresses on the Wound *c*: This is to be repeated as long as your Bandage will permit, when the Ends must be sewed.

The Bandage proper after an Extirpation of the Parotis.

Almost the same Kind of Bandage may be used to the neighbouring Parts, which seldom fails of Success in suppressing an Hæmorrhage, after Wounds in, or an Extirpation of, the parotid and maxillary Glands, when they are scirrhus. In these Cases, the Wound being dressed with a large Quantity of Lint, and thick Compresses, the Bandage is to be fixed on the sound Side, as after Arteriotomy. (See *Fig. 8. a, b, c, d, e.*) When the first Circumvolution is made, the Folds *d, e,* over the Vertex, and under the Chin, must be repeated oftener than in the foregoing Case, and those round the Forehead and Occiput seldom: And in this Bandage, different from the Method of the preceding, the Knots must be upon the Part wounded *f,* under the Ear: By this means, the Lint and Dressings are so closely press'd upon the Part, that there is very little Danger of an Hæmorrhage: The Extremities should be sewed. *Heister* says he contrived this Bandage, when he first made an Extirpation of the fore-mention'd scirrhus Glands; and from its many Crossings called it *Knotted*.

The Capeline for an Hydrocephalus.

The reflex Bandage of the Head, (by the French call'd *Capeline de la Tête*) for an *Hydrocephalus*, is a double-headed Roller, about twenty-four Feet long, and two Fingers broad. The Middle is fixed to the Occiput; and, after two or three circular Rounds, the Rollers intersect each other upon the

Forehead and Occiput: Then one Roller being reflected over the Vertex, or sagittal Suture, to the Forehead, *Fig. 9. a,* the other continued in a circular Tract *b, c,* they cross each other upon the Forehead: After which Crossing, the first Head is carried back obliquely towards the Occiput *c, d,* and reflected by the Side of the other *a*; the last is continued in the circular Direction *b, c*; but the first is brought again from *c* to *f,* then from *g* to *b,* the other still continuing its circular Course. This is to be repeated, till the Head is entirely covered; and, when your Bandage is almost spent; that you may fasten the oblique Reversions *c d, e f, g b,* you must bring one End over the sagittal Suture *a*; and the other circularly round the Head *b, c.* Some recommend this Bandage for the Head-ach. *Nuck, in Exper. Chirurg. 17.* has observed, that it is of very little Service in an *Hydrocephalus*.

The Monoculus.

We come now to these Bandages of the Head, which are proper for the Eyes. Of these there are two Kinds: The first is called *Monoculus*, or rather *Monophthalmus*; the other *Binoculus*. The *Monoculus* is ten or twelve Feet long, and two or three Fingers broad, according to the Size of the Patient. It retains the Dressings either on one Eye or Eyelid. The End of this Bandage, for it is single-headed, is fixed upon the Occiput, and from thence carried obliquely round the Head and Ear of the wounded Side, till it crosses the Compress and Dressings upon the Eye, (See *Fig. 10. a, a*) and so obliquely over the Forehead *b,* till it returns to its Beginning: Having thus carried it thrice obliquely round, the Remainder is to go circularly *c c c,* about the Temples, Occiput, and Forehead, as long as the Bandage will permit, and then sew it. A clean Napkin or Handkerchief (See *Fig. 11.*) will answer the End of a *Monoculus*.

Of the Binoculus.

The *Binoculus* retains the Dressings on both Eyes: It is twelve Feet long, and about two or three Fingers broad. It is variously applied, as it is either double or single-headed: 1. If it is single-headed, the End is held upon the Occiput; from thence it is carried round obliquely by the Ear, (*Fig. 12. a*) and the Eye *b,* to the Right Side of the Forehead *c,* and then back again to the Place where it began; from whence it ascends to the Forehead *d,* then descends to the Eye *e,* traversing the Nose in the Shape of an X, and terminates once more in the Occiput *f.* When you have repeated these oblique Circles thrice, the rest of the Roller is to be spent in plain Circles round the Head, Temples, and Forehead, *g, g, g*; then fasten it. 2. If it is double-headed, the Middle is fixed upon the Occiput, and the Ends carried round on each Side by the Ears, and over the Eyes, (*Fig. 12. a, b, f, c*) to the Forehead, when they cross one another upon the Nose like an X; and then changing the Rollers, they return over the Temples *d, c,* to the Occiput; where being changed and crossed again, they return by the Ears, Eyes, and Forehead: Having repeated these Turns likewise three times, the rest must be carried round the Head in circular Directions *g g g,* that the Bandage may adhere more strongly. But here we must observe, that this Bandage may be very well supplied by the Napkin (*Fig. 11.*) even when both Eyes are affected; if the Ends are tied in a Knot upon the Occiput, or, crossing each other there, pin'd near the Ears or Temples.

Of the Sling for the Nose.

The Bandage for the Nose has four Heads, and is eight Feet long, and two or three Fingers broad. It is slit at each End, and left entire about two Fingers-breadth. Between the two Slits there is a small Aperture to receive the Apex of the Nose, and keep the Bandage firm, *Fig. 13. a.* This is generally applied to a fractured Nose, or to retain the Dressings in a Wound, or Inflammation, or after the Extirpation of a Polypus, or making a Perforation when the Nostrils are obstructed. The Method of using it is, to fix the Middle upon the Apex of the Nose, and carry its two upper Heads *b b* backwards to the Neck on each Side; there crossing, they are brought up round the Forehead *c c,* and tied with the Knot *d,* or pin'd to the Patient's Cap; but the lower Heads *e e* are carried a little upward over the Cheek and Temples *f*; and, like the former, tied upon the Head and Forehead *g g.* Here we may observe in general, that in all Bandages of four Heads, the two uppermost are never to be carried directly backwards, but a little obliquely downward, and the lower a little obliquely upward, so as to cross at *e e,* and hold the Parts more firm.

The single Bridle.

The single Bridle is of Service, when the lower Jaw is fractured or luxated on either Side. It is a single-headed Roller, about sixteen Feet long, and two or three Fingers broad. After reducing the Maxilla, and applying an adhesive Plaster with a stiff Pasteboard Splint (See *Tab. XXIX. Fig. 9.*) to the affected

Part, first covering this Splint with several Folds of Linen, and moistening it in warm Wine, invest the Whole in the Manner directed under the Article FRACTURA, for Fractures of the Jaws; then the loose End is to be applied to the Occiput, and there fastened, after rolling it twice round the Forehead, *Fig. 14. a b*, *Tab. LVIII.* then the Remainder being pin'd or sewed to the other Part upon the Temple of the affected Side *b*, which we here suppose to be the Left, is carried down over the Left Cheek *c*, and under the Chin *d*, and then it is carried up again near the Cheek and Temple of the sound Side to the Vertex *e*, from whence it is convey'd down to the affected Side *b c d*. When these Circles have been repeated thrice, your Bandage must be carried from the Throat to the Neck, and from thence under the Ear to the fore Part of the Chin, and the affected Jaw *fg*, from thence under the Ear on the sound Side round the Neck, and so over the Chin once more. Lastly, the remaining Part, if there is any, must be conveyed from the Occiput to the Forehead, falling into the Circle *a b*. Observe, the Crossings of this Bandage at *b f* ought to be pin'd or sewed together, to prevent its slackening. This Bandage, which we have propos'd for Fractures of the Jaw-bones, is also highly proper in Luxations thereof.

Of the double Bridle.

If both Sides of the Jaw are fractured, after the Reduction, you must use the *double Bridle*: This is twenty-four Feet long, and two or three Fingers broad. In every Fracture and Dislocation, the Part must be reduced, and immediately a proper Plaster applied; and some recommend (though that indeed is unnecessary) a *Ferula* of Pasteboard in the Shape of the Jaw, covered with Linen, and perforated in the Middle to receive the fore Part of the Chin. (See *Tab. XXIX. Fig. 10.*) This *Ferula* is to be held by an Assistant, and the Middle being put under the Chin, the Rollers are conveyed up on each Cheek, and the Temples (*Fig. 15. a b. Tab. LVIII.*) to the Vertex *c*; there crossing each other, they are carried down again under the Chin, where they begun: You must repeat this thrice; then, having exchanged the Heads, they descend from the Vertex to the Neck; and from thence, after crossing, are conveyed on each Side, so as to pass round the anterior Part of the Chin, and lower Jaw *de*, and then again to the Neck; from whence, after crossing, they proceed to the Forehead, where, when they have formed the circular Directions *b, f, f*, not only the Extremities, but every Crossing, should be fastened either by pinning, or sewing. The *simple Bridle* will answer every End proposed as well.

Of the Sling with four Heads for the Jaws.

Some Surgeons, instead of either of these Bridles, use a four-headed Bandage, a little above four Feet long, and four, five, or six Fingers broad, being perforated in the Middle, which, though it is more simple, is equally serviceable. (See *Tab. LVIII. Fig. 16.*) For when they have reduced the Fracture or Luxation, and apply'd proper Dressings, they let the Chin into the Aperture *a* in *Fig. 17.*; and then the upper Heads are carried back to the Neck, and being crossed and exchanged there, ascend to the Forehead *c c*, where they are tied with the Knot *d*. But the two lower Heads *e* are convey'd upwards by the Cheeks *f* to the Vertex, and there tied in a Knot *g*; or else, if the Bandage will permit, carried down again, and tied under the Chin.

Of the Bandage for the Lips.

Surgeons likewise apply a four-headed Bandage, not unlike the Sling described for the Nose, about an Inch broad, to Harelips, and Wounds in those Parts, to retain the Dressings. The Middle, which is not to be perforated, is fixed upon the Lip *a*. (See *Fig. 18.*) The upper Heads are first brought to the Neck *b b*, from thence to the Forehead *c*, where they are tied in a Knot, or pin'd; The lower *d d* ascend upon the Cheeks *e e* up to the Occiput; from thence are brought round to the Forehead, where they are fastened in the same Manner. I know it has been the Practice of some, to use the uniting Bandage for the Hare-lip, *Tab. XXIII. Fig. F*, about four Feet long, and one Finger broad, with a Slit in the Middle about two Fingers-breadth: Almost the same we described above (*Fig. 3. Tab. LVIII.*). This, as it presses the Needles too close, is not only inconvenient, but Reason and Experience also assure us, that it is frequently hurtful and improper.

Of the Mask.

If the whole Face is burnt by Gun-powder, or any other Fire, the Application is a kind of Linen Mask, with Slits for the Eyes, Nose, and Mouth. This Cloth, moistened with proper Remedies, is put upon the Face. It is tied behind the Occiput with six Tapes, or Pieces of the same Linen. (See *Tab. LVIII. Fig. 19.*) This will also retain the Dressings for a *Phlegmon*, or an *Erysipelas* of the Face.

Of Bandages for the Neck.

The Divider.

Among the Bandages proper for the Neck, the principal is that called the Dividing Bandage, twenty-four Feet long, and two or three Fingers broad, rolled into two Heads. This is generally applied to a burnt Neck, especially if it happens in the fore Part, to prevent the Head from growing to the Breast, or being contracted forwards. After having dressed the Wound, the Middle is placed upon the Forehead, and, forming two circular Directions round the Head, (see *Tab. LVIII. Fig. 20. a a*) one Roller is conveyed under the Right Armpit *b*, the other under the Left *c*, and two Circles made round the Breast *dd*, to keep the Head erect. Each Crossing upon the Head must be fastened together, either with Pins, or to the Cap (*Fig. 21. a*). When this is done, the two Rollers are carried again to the Neck, and from thence, crossing, like an X, to the Forehead; and from the Forehead they return to the Neck, and so under the Arms, and thus keep the Head upright. The Remainder may be spent in plain Circles about the Forehead and Occiput. This Bandage must be continued, or, if necessary, renewed, till there is no Danger of Distortion. Some recommend it for a Weakness in the Muscles of the Heads of Children. But it is to be observed, that when Bandages are passed under the Armpits, these Parts ought to be previously guarded by thick Compresses; otherwise, the Skin is easily ruffled, and great Pain, by that means, created to the Patient.

Of the Retentive Bandage for the Neck.

The next Bandage for the Neck is called the Retentive, as it keeps on the Dressings after Bleeding, Burns, or any surgical Operation. This is generally made of two simple Bands, one four, the other six Feet long, the first a Thumb or two Fingers-breadth, the last three. Having applied the Dressings, the shorter is laid over the Head, cross the Vertex, in such a Manner, that the two Extremities hang down over the Shoulders (see *Fig. 22. a a*); the longer is conveyed circularly round the Neck *b b*, and retains the Dressings and the other Band *a a*, but not so tight as to obstruct the Breath; then fasten it with a Pin. Lastly, the two Heads of the first Band *a a*, which hang on the Shoulders, are to be brought back over the Circles *c, c*, and pinned by the Ears, to prevent the circular Bandage from descending. But, to confess the Truth, this shorter *a c* is of very little Service; for the Shoulders, as Experience proves, will keep the circular Bandage from slipping.

Of the Bandage for Tracheotomy.

The third Bandage for the Neck is usually applied after the Operation of Tracheotomy. This is the Method: A proper Tube is placed in the Aperture made in the *Aspera Arteria*, and then a common simple Bandage, two Feet long and two Fingers broad, perforated in the middle, with a Plaster and Compress, likewise perforated, is drawn circularly round the Neck, and tied in a Knot. Or you may use a single-headed Bandage, three Feet long, and two Inches broad. The End is to be fixed upon the Neck; then make two circular Rounds about it; but, as often as it comes to the Canula, inserted in the Trachea, it must be perforated, to give free Admission to the Air: The Extremity must be pinned. This Bandage should not be removed, till the Patient has recovered his Respiration; then, the Wound being dressed with a vulnerary Balsam, and adhesive Plaisters, the Lips should be brought together by an Uniting Bandage (*Tab. XXIII. Fig. f*) four Feet long, and two Fingers broad, as in oblong Wounds of the Forehead, &c. (*Tab. LVIII. Fig. 3. a.*)

Bandages for the Clavicles are described under the Article CLAVICULÆ.

Of Bandages for the Humerus and Scapula.

Simple Spica.

For a Luxation of the Shoulder, after it is reduced, you must apply the Simple Spica, with a Ball under the Axilla, to prevent its slipping. The Compress must be a Foot in Length, and an Hand in Breadth, slit at each End, so as to have four Heads (see *Tab. XXIII. Fig. 18.*); and being expressed out of warm Wine, Spirit of Wine, or Oxycerate, is placed under the Arm with its Middle upon the Ball; the Heads come up over the Shoulder, which they are to invest. Then the Simple Spica is fixed upon a square thick Compress, under the Axilla of the sound Side, to prevent the Skin from chafing. See LUXATIO.

The Double Spica.

If both Shoulders are dislocated, the double Spica will be most commodious. A Ball, or Pellet, of Linen being fixed (as I have already directed) under each Axilla, with a proper Compress,

Compress, you are to take a Band, twenty-eight or thirty-two Feet long, and three or four Fingers broad, double-headed ; and, placing its Middle under either Arm, for Instance, at *d*, (Tab. LVIII. Fig. 25.) you cross the two Heads upon the Shoulder *e*, and carry one over the Breast *b*, the other over the Back, to the opposite Arm *a*. From hence, after crossing them, you convey them up, over the other Shoulder, as before ; from whence they return, over the Back and Breast again, crossing each other, like an X, to *d*, where they began. This Process is to be continued two or three times ; then the Remainder may terminate either in plain Circles round the Body, or one of the Arms, fastening the Ends with Pins. The Double Spica is, also, of singular Service, not only in Luxations of the Humerus, but, also, in Cases where the Scapulæ, or both Clavicles, are fractured near the Humerus, and when there is a Necessity for applying Bandages to both Shoulders at one and the same time, for any Reason whatever.

Of Bandages for fractured Scapulæ.

When the fractured Scapula is replaced, and secured by Compresses, and Splints of Pasteboard, you may apply either of the three following Bandages : I. Double Spica, described in the last Paragraph. II. The Capeline. Or, III. The Stellate. Which last is generally used ; but observe, that the Scapulæ and Dressings are to be retained in their proper Place : Tho', when both Scapulæ are fractured, it must be acknowledged, that the Double Spica is most advantageous, because it covers and secures them both.

An EXPLANATION of the FIFTY-EIGHTH PLATE.

Fig. 1. Denotes the *triangular*, or simple, *Kerchief* for the Head, *Gall. Couvre-chef en triangle* ; *n a a*, the Middle of it, which invests the Forehead, Vertex, and Occiput ; *b*, its Corners, tied upon the Occiput.

Fig. 2. Shews the Manner how the six-headed Bandage is applied ; *a a a*, the middle Corners, hid under the Chin ; *b*, one of the anterior Corners, which, with its Companion, is carried round the Occiput, and fastened near the Ear ; *c c*, the posterior Heads, brought from the Occiput to the Forehead, and there tied in the Knot *d* ; *e e*, the Middle, which invests the Head.

Fig. 3. Exhibits the Uniting Bandage for the Forehead ; *a*, the longitudinal Wound in the Forehead ; *b*, the Slit in the Bandage, upon the Wound, through which the other Part, *c*, is passed ; *d d*, the two Heads of the Bandage, by drawing which the Lips are joined ; and so kept, by forming Circles round the Head, with the Remainder.

Fig. 4. Represents the same Bandage, on a longitudinal Wound, near the Vertex.

N. B. In Fig. 3. and 4. the Engraver has omitted expressing the Wound, which should have been at *a a*.

Fig. 5. Shews the Discrimen ; *a*, the Place where it begins ; *b b*, the circular Directions round the Head ; *c*, the Part reflected back from the Forehead to the Occiput.

Fig. 6. Represents the Scapha ; *a*, the Beginning of the Bandage ; *b b*, its first oblique Round, about the Neck ; *c*, the Beginning of the second Round, which is reflected back to the Left Side of the Occiput, and there forms the Shape of a Boat ; *a d d*, the Circles about the Head, where it terminates.

Fig. 7. Demonstrates the Knotted or Solar Bandage, for Arteriotomy in the Temples ; *a b*, the first Round made by the two Heads from the sound Temple to *c*, when they are crossed upon the divided Artery ; *d e*, the other Round, under the Chin, and over the Vertex, to the opposite Temple, where they cross again, in the same manner as at *c*.

Fig. 8. *a, b, c, d, e*, exhibit the same Bandage ; but *f*, the Part where the Knot is to be made after the Extirpation of the salivary Gland.

Fig. 9. Shews the Capeline for an Hydrocephalus ; *a*, the depending Head, reflected back to the Occiput ; *b c*, the circular Round, about the Head ; *d, e, f, g*, the other reflex Turns, investing the Head.

Fig. 10. Represents the Monoculus, a Bandage used for the Deligation of one Eye ; *a a*, the first Round, which passes from the Occiput, by the Ear and Cheek, over the Left Eye, and from thence, by *b*, to the Occiput, where it began ; *c c c*, the circular Turn about the Temples, where it ends.

Fig. 11. Demonstrates how the Monoculus, made of an Handkerchief, or Napkin, may be commodiously tied about the Head.

Fig. 12. Exhibits the Method of binding both Eyes. This Bandage is carried from the Forehead, by the Direction *a b c*, over the Left Eye, to the Occiput ; and from thence returns there again, over the Right Eye, in the Course *d, e, f, g g g*, the circular Turns, which are made round the Eyes, till the Whole is spent.

Fig. 13. Shews the Manner of applying the Sling for the Nose ; *a*, the Middle, which receives the Tip ; *b b*, the up-

per Heads, which are carried round the Occiput and Temples, to the Forehead *c c* ; and tied by the Knot *d* ; *e e, f f, g g*, denote the same, with respect to the lower Heads.

Fig. 14. Represents the Single Bridle ; *a b*, the Circles round the Head, where the Bandage begins ; *b*, the Part where it is fastened, and then, by the Direction *c d e*, is carried about the Cheeks, Chin, and Vertex ; *f g*, the Turn from the Neck, over the Jaw.

Fig. 15. Demonstrates the Double Bridle. This is formed with a double-headed Roller ; the Middle is fixed under the Chin, and, then, several times conveyed on each Side, in the Direction *a b*, to the Vertex *c* ; from thence to the Neck, and over the Jaw, *d e*, where the Heads are crossed at *e* ; Then they return to the Neck and Occiput, and from thence to the Temples and Forehead, *f f, b*.

Fig. 16. Represents the four-headed Sling for the Chin ; *a*, the Aperture, which intercepts the Chin ; *b b b b*, the four Heads.

Fig. 17. Shews the Method of fixing it upon the Chin and Lower Jaw, and the Ends tied about the Head.

Fig. 18. Exhibits the Manner of using the Sling for the Upper Lip ; *a*, the Middle, without a Perforation ; *b b*, the two Heads, tied at *c* ; *d d*, the two lower Heads, which are carried up over the Cheeks *e e*, to the Occiput, and then tied upon the Forehead.

Fig. 19. Denotes the Mask for the Face ; *a b*, the Mask itself, which invests the Face, and is tied by the six Ends *c, c, c, d, d, d*, upon the hinder Part of the Head.

Fig. 20. Demonstrates the anterior Part of the Dividing Bandage ; *a a* are the Circles surrounding the Head, where it begins ; *b*, the Direction, which passes under the Right Arm ; *c*, that which passes under the Left, to the Back, where the Heads are exchanged, and then brought, circularly, about the Breast *d d*.

Fig. 21. Represents the posterior View of the same Dividing Bandage ; *a*, the Parts where the Heads intersect each other like an X ; *b, c*, the circular Turns, which pass under the Arms ; *d d*, the Circles which invest the Breast and Back.

Fig. 22. Shews the Capeline for a fractured or dislocated Clavicle ; it has two Heads ; *a b*, the first Round of the anterior Head ; *c, d, e*, the Rounds of the posterior ; *f, g, h*, secures those, reflected before and behind.

Fig. 23. Denotes the Stellate Bandage, for the Clavicle and Scapula. It may begin under the Arm *a* ; then *a b* represents its first Progress ; whence it returns under the Arm *c*, and then over the Shoulder *d*, to *a*, where it began ; *e*, the Crossings, whence it is called *Stellate*, from its imaginary Resemblance to the Rays of a Star. You may begin either at *b*, or *c*, or *d*, as you please, carrying the Rollers in the same manner.

Fig. 24. Exhibits the Simple Spica, for the Axilla. It begins under the sound Arm *a* ; then ascends in the Direction *b c* ; then is reflected back, under the Arm *d* ; from whence it ascends again to *e*, and from thence, over the Back, to its Beginning ; the same Course must be repeated often.

Of the Bandages for the Præcordia and Breasts.

The Bandage after Amputation of the Breast.

The Bandage to be applied, after the Amputation of a Breast, is twenty-four Feet long, three or four Fingers broad, and double-headed. After proper Dressings, you fix its Middle under the Right Arm (for we suppose the Left Breast taken off, or a large Scirrhus extirpated from it) ; see Tab. LIX. Fig. 1. A. You then carry the two Rollers upwards, and cross them upon the Shoulder B ; from thence the anterior Head passes obliquely over the Breast C ; and the posterior over the Back, to the Left Axilla D ; where they are again crossed, and drawn tight upon the Compresses of the Breast : Hence the posterior passes in the Direction C, to B ; the anterior, under the Arm D, over the Back, to the same Letter B, where they intersect each other once more. These Turns must be often repeated ; only remember, in using the rest of your Bandage, to be more frequent in the Crossings upon the Wound, than under the Axilla D ; for, by this, your Dressings will be more secure, and an Hæmorrhage, perhaps, prevented. Lastly, some circular Rounds should be made about the Thorax, from D to A, to secure the first ; and, then, some oblique ones from D to B ; but observe to terminate your Bandage in Circles about the Breast, and lower Part of the Dressings ; then pin or sew it.

Of the Bandage of Heliodorus, commonly called the T Bandage.

In most Disorders of the Breast, the Bandage of *Heliodorus* is commonly used. It is formed of two simple Bands, one joined, perpendicularly, to the Centre of the other, resembling the Letter T, whence its Name ; though the perpendicular Part is slit up almost to the End, (as Fig. 11.) so that it forms a four-headed Bandage, *a a, b b* ; or two distinct Pieces may be sewed on, (as Fig. 10.) which makes it resemble the *Greek* 11. The transverse Part *a a* (Fig. 10, 11.) must be long enough

enough to go round the Body, and tie upon the Back, or Side; and two or three Inches broad: The direct must be long enough to pass over the Shoulder, and tie round the circular Band, upon the Back, and broad enough to retain the Dressings upon the Breast. In an Inflammation, Tumor, Abscess, Gangrene, or any such Disorders of the Breasts, it is thus applied: You place the transverse Part under the Breasts, round the Thorax, (*Fig. 2. a a*) so that its two Extremities may be tied on the Back; then you pass the two slit Ends over the affected Breasts, Dressings, and Left Shoulder, provided the Left Breast is affected, and tie them with the circular Round on the Back. Some apply the two Heads *b b* in a cross Manner, in order to retain the Dressings more firmly; they proceed in the same Method with the Bandage (*Fig. 11.*). But it is certain, that what we propose, (*Fig. 12.*) of passing the two Heads *b b* on each Side the Neck *d*, will answer the Purpose as well; for this prevents their sliding off the Shoulders; and they may be tied behind the Neck, without laying the Patient's Back naked, which is often disagreeable to weak or modest Persons, and the cold Air may prove very prejudicial.

Slings for the Breasts.

As I observed these Inconveniences in *Heliodorus's* Bandage, and that it was not proper for an ulcerated Cancer, extending itself towards the Axilla; I contrived a four-headed one, which has answered my Expectations. I made a Sling, four Feet long, and about six Inches broad, unslit about a Foot in the Middle. This entire Part (*Tab. LIX. Fig. 3.*) I applied to the Compresses, on the affected Breast, which is here supposed the Left; then carried the two upper Heads *b b* over the Right Shoulder, and the two lower *c c* under the Left Arm, towards the Right Scapula, on the Back; and there tied them in two Knots, near *d*. I have found this a convenient Bandage, as it retains the Dressings more firmly, and is less troublesome to the Patient; while *Heliodorus's*, by making the Skin chafe about the Breast and Thorax, gives a great deal of Pain. Sometimes I have, with good Success, used a Napkin, or Towel, in the manner directed for the Eyes, *Tab. LVIII. Fig. 11.*

The Napkin and Scapulary.

The Bandage which the Surgeons call the *Napkin and Scapulary*, is very commodious (*Gall. la Serviette avec le Scapulaire*). This is applicable in Wounds, Ulcers, Fistulæ, and a Paracentesis of the Breast; likewise in Fractures of the Sternum, or the Spina Dorsi, and in fractur'd or dislocated Ribs. It is made of two Pieces of Linen: The first is like a Napkin, four Foot long, for Adults, but, for fat Persons, it may be six, or more, folded together four or six times, till it is about the Breadth of eight or ten Fingers, according as Circumstances require. Then it is applied to the Dressings on the affected Part, and pin'd upon the Breast, if the Disorder is before; if behind, to the Back (*see Tab. 24. Fig. 1. B*). Then, lest this Band should slip or fall off, apply the Scapulary, a Piece of Linen three Feet long, and four or six Fingers broad, slit in the Middle enough to let the Head through, (*see Tab. XXIII. Fig. 9.*); then bring the two Ends, one over the Breast, the other upon the Back, in such a manner, that they may reach the circular Band, both before and behind, to which you pin them (*see Tab. XXIV. Fig. 1. B, C*). This last is called *Scapulary*, because a great Part of it is sustained by the *Scapulae*. Some slit this Bandage at one End, almost up to the Middle; then fix the entire Part on the Back, and the two Heads on the Side of the Neck, crossing them upon the Sternum (*see Tab. LIX. Fig. 4. F*); and fasten them, as before, on each Side of the Breast, to the Napkin.

Of Bandages for the Sternum and Ribs.

The Quadriga.

From what has been already said, it is sufficiently manifest, that you may apply the Napkin and Scapulary to a fractured Sternum after the Reduction, and dressing with an adhesive Plaster, Compresses dipt in Spirit of Wine, and Splints of stiff Paste-board. But the more general Method is, to use a peculiar and stronger Bandage, termed *Quadriga*, or *Catapbracta*, twenty-four Feet long, and three or four Fingers broad, with two Heads; this binds up the Sternum and Thorax more firmly. The Middle of this Bandage is fixed under either Arm, for Instance, the Left (*Tab. LIX. Fig. 4. a*). The two Heads are carried upwards, and intersect each other, upon the Shoulder *b*; then they descend obliquely, one cross the Breast *c c*, the other over the Back to the opposite Axilla *d*; here, being cross'd, they ascend to the Right Shoulder *e*, where they are cross'd again; and then the anterior Head is convey'd over the Breast *e f*; the posterior over the Back, to the Left Arm *a*, where it began. The Remainder is spent in circular, or, rather, obtuse spiral, Directions *g*, round the Thorax, traversing each other, either before or be-

hind, more firmly to bind the Sternum, (*see Tab. LVIII. Fig. 21. d d*) till the whole disorder'd Part of the Thorax is thus invested. The same Kind of Bandage may be applied after the Amputation of a cancerous Breast: But observe to fix it upon the Wound and Dressings in such a manner as to prevent an Hæmorrhage; which may be done by changing the Ends, and crossing them upon the affected Breast, after the first Round.

Bandage for the Ribs and Spine.

As to Fractures and Dislocations of the Ribs and Spina Dorsi, after Reduction, and securing with Splints of Paste-board, and Compresses dipt in warm Spirits of Wine, you may use the Sling for the Breast, or the Scapulary with the Napkin, described above.

Of Bandages for the Abdomen, and Private Parts.

The Napkin and Scapulary are; at this time, the most usual Bandage for the Abdomen, after a Wound, Suture, or Paracentesis, and, indeed, the most commodious, applied in the Manner we have already describ'd (*see Tab. XXIV. Fig. 1. B, C*). But the Scapulary must be longer for the Abdomen, than the Thorax; as is evident from the Make of the Body.

Circular Bandage of the Abdomen.

The Antients, and some Moderns, use a single or double-headed Bandage, about twenty-four Feet long, and four Fingers broad, for Disorders in the Abdomen. They begin upon the upper Part, and continue two or three circular Rounds, and then go downwards spirally, till they have secured the affected Part and Dressings: They pin, or sew, the End; and then fasten it to a Scapulary, that it may not slip. The *Quadriga* (*Tab. LIX. Fig. 4.*) may be commodiously applied on these Occasions, with this Difference, that, after making the Turns *a, b, c, d, e, f*, the Round *g* must be circular, or spiral, about the affected Part of the Belly; so that there is no Necessity for a Scapulary, as the Circles supply its Place.

Uniting Bandage of the Abdomen.

Longitudinal Wounds of the Abdomen, if not very large, are often successfully healed by the Uniting Bandage, without Suture. This Bandage ought to be twenty-four Feet long, and four Fingers broad. In the Middle there is an Aperture, about four Fingers-breadth long; the Ends are rolled up with two Heads (*see Tab. XXVI. Fig. 8.*). The Method of using it may be very easily learn'd from what has been said of the Uniting Bandage for the Forehead (*Tab. LVIII. Fig. 3.*). The Slit is plac'd upon the Wound; one Head carried round, and then pass'd round the Aperture, and drawing the two Heads tight, the Lips of the Wound are joined; then conveying them both to the Spine, they are there cross'd, and brought round again to the Wound, where they traverse each other, and approximate the Lips. This Bandage is continued till the Whole is spent; then it is pin'd or sew'd.

Bandage for the Omphalocele.

For the Umbilical Hernia, take a Leathern or Cotton Belt, either round, (as in *Tab. XLV. Fig. 6. A*) or square (as *Tab. LIX. Fig. 5. a*); after reducing the Hernia, place it upon the Navel; then fasten it round the Abdomen, either by the Strings *B B*, or the Buckle *C*, (*Tab. XLV. Fig. 6.*) or any other Way. But lest the Belt *B B*, (*Tab. LIX. Fig. 5.*) especially in fat Persons, should slip, you must fasten it, both before and behind, to the Scapulary *C*, made of strong Linen; and, to prevent its sliding upwards, fasten it with a Piece of Linen, or Calicoe, with two Heads, under the Compress *A*; this, being brought round the Nates, on each Side of the Scrotum, is fastened to the Belt *B B*, near the Groin, by Pins, or Suture.

The T Bandage for the Scrotum, &c.

The usual Bandage for Fistulæ, or Abscesses of the Anus, a Fracture of the Os Sacrum, a Dislocation of the Os Coccygis, violent Hæmorrhoids, after cutting for the Stone, or any other Wound or Disorder of the Perinæum, is the T Bandage of *Heliodorus* (*see Tab. XXIII. Fig. b*, and *Tab. LVIII. Fig. 10, 11.*). After having applied proper Dressings, the transverse Head of the Bandage (*Fig. 14. a a*) is carried round the Belly; and the perpendicular Part hangs down upon the Os Sacrum *b*, and betwixt the Thighs *d d*, and from thence ascends to the transverse Part, to which it is tied in a Knot, near the Groin. This Bandage is, also, suitable to the Hydrocele, Sarcocoele, and other Tumors of the Scrotum and Groins, or an Inflammation of the Testicles, where, however, the transverse Part (*Fig. 7, 8, 12. a a*) must be fixed in such a Manner, that the Perpendicular *b b* (*Fig. 6, 7, 8, 9, 10, 11, 12.*) may retain the Dressings upon the Groin, (*Fig. 7. b*) or upon the pri-

vate Parts (*Fig. 8, 12. b b*); and then, being brought between the Thighs, be tied, either on the hinder Part of the Body, (as in *Fig. 7.*) or the Side of the Thigh, (as in *Fig. 8, 12. b b*) or the anterior Part of the Belly (as in *Fig. 12. c c, d*). In many Cases it may be proper to apply the Scapulary, without the Napkin, for the better Security of this Bandage. The Figure of the T Bandage varies, according to particular Uses: For that of *Fig. 6.* is proper for the Groin (see *Fig. 7.*); that of *Fig. 9.* for the Scrotum; that of *Fig. 10, 11.* for any Disorders in the Breast, Anus, Scrotum, and Perinæum; and that of *Fig. 13.* is generally used for Tumors of the Scrotum; and, therefore, called *Bourse*, or *Sacculus*, for the Scrotum.

Arnaud's Bandage for the Anus.

There is a new Bandage for Fistulæ and Abscesses of the Anus, invented by *Arnaud*, a French Surgeon, and recommended by *Garengot*. First, the Scapulary, (as in *Tab. XXIV. Fig. 1. c*) but longer, so that it may reach down to the Bottom of the Belly, is applied round the Body, with the Napkin B; then, near the Joining of the Napkin and Scapulary, upon the Back, (see *Tab. LIX. Fig. 14.*) in the Interstices *a a*, you must sew three or four Strings of Tape. Then take another Band, of more than four Feet long, and six Fingers broad; slit this up, so as to leave not above two Hands-breadth whole at one End, like *b* in the same Figure; upon the Sides of this *c c* sew three or four other Pieces of Tape, which are to be tied in single Knots, to the Strings of the Napkin *a a*; these the Patient may untie, and renew the Bandage, at his Pleasure, without any Trouble. After proper Dressings, the before-mentioned Strings of each Bandage are to be tied in Knots about the Back *a a* and *c c*; then the two slit Ends *d d*, being pass'd over the Anus, betwixt the Thighs, ascend, and join the Napkin, one on the Right, the other on the Left Side of the Abdomen. Lastly, if there be a profuse Discharge of Blood after the Incision, which sometimes happens, let an Assistant press the Part closely, with his Hand, for an Hour or two. The chief Advantage, ascribed to this Bandage by *Garengot*, is, that it adheres strongly to the Body, and retains the Compresses firmly, by means of the Scapulary, upon the Shoulder. But I think the T Bandage (*Fig. 11.*) will answer all the same Purposes; especially if the Whole, or, at least, the transverse Part, which is fixed upon the Abdomen, be made of Ticking.

The Knotted Bandage for the Perinæum.

As few of the preceding Bandages seemed to me, says *Heister*, capable of checking an *Hæmorrhage*, after cutting for the *Fistula* of the *Anus*, or a Stone, and none of our Writers, tho' there are frequent Instances of Patients being lost by it, have proposed any, I thought it might be worth while to contrive one; and, upon mature Deliberation, I think the following will prove effectual. Take a double-headed Bandage of twenty-four Feet long, and three Fingers broad. After Dressing the Wound with Dossils of Lint, and thick Compresses dipt in *Alcohol of Wine*, as in other profuse Bleedings, fix the Middle of it upon the *Perinæum*; then bring the anterior Head over the Left Groin, (*Tab. LVII. Fig. 15.*) from *a* to *b*, over the *Os Ilei c*, and the posterior between the *Nates*, to the same Place, where you must tie and cross them; then bring the anterior Head over the *Abdomen d*, and the posterior directly cross the Back or Loins to the Right *Ileum e*; and there crossing them again, the anterior must descend over the Right *Inguen f*, and the posterior over the Right Buttock to the *Perinæum*; here they traverse each other, and are exchanged, so as to form a kind of Knot, like the Bandage for *Arteriotomy* (see *Tab. LVIII. Fig. 7. c*). Hence they ascend again over the Left Groin and Buttock, *a, b, c*, continuing in the same Direction, as before, always observing to fix your Knots upon the *Perinæum*, after cutting for the Stone; and upon the *Anus*, after cutting for a *Fistula* in the *Anus*. This may properly be denominated the *Knotted Bandage* for the *Perinæum*, as it invests the Part so closely. If a tighter Bandage be thought necessary, after the first Circle over each *Inguen* and *Ileum*, and a secure Knot upon the *Perinæum*, the anterior Head may be carried obliquely from the Left Groin *a*, over the *Abdomen* and Right Shoulder, in the Course of the prick'd Line, and the posterior brought over the Back to the same Place: They are there decussated, and carried down again, in the same Direction, to the *Perinæum*; and there again they form a Knot, after which they ascend in the same manner by the prick'd Line *g, d, i*, to the Left Shoulder; there they are exchanged, and go, in the same Direction as before, to the *Perinæum*, where they are formed in a Knot, the better to compress the bleeding Vessels. Lastly, you must continue those Circles, which go only from the *Perinæum*, to the *Ilea*, and round the Belly, till the Whole is spent; then fasten it well. But, if you follow the last Method, you ought to have a Roller thirty-two Feet long, to allow for those large Turns.

Spica Inguinalis.

There is a peculiar Kind of Bandage, called *Spica Inguinalis*, for the Cure of Intestinal *Hernias*, the *Bubonocèle incarcerata*, a Dislocation of the Thigh, and a Fracture of the *Os Ilei*. It may be differently used, like the *Spica* for the Shoulder, and is either single or double-headed. The single-headed Roller must be twenty-four Feet long, and three Fingers broad. The End is placed on the *Os Ilei* of the sound Side (*Tab. LIX. Fig. 16 a*). Hence the Head of the Roller passes round the Bottom of the Belly *b b*, and the Hip *c*; then, going to the back Part of the Thigh, comes up between the Thighs at *d*, and is conveyed over the Compress at the Groin *e*. When this is done, you must carry it over the Back to its Beginning. This must be repeated, as often as the Bandage will permit; or, after three Repetitions of the first Course, you may spend the rest circularly about the *Abdomen* for Security; then fasten it with a Suture, and pin the Bandage and Compress together, on the Groin, with two or three Pins, lest the Compress should slip, or the *X*, made there, change its Position, which it will do, unless you pin it very well. But after an Operation for the *Hernia incarcerata*, if by any means you have wounded the *Scrotum*, or were oblig'd so to do, having repeated the first Course three times, you may pin the Bandage at the Left Groin; then bring it up under the *Scrotum f*, by the Right *Inguen g*, to the Left *Inguen d, e*; then pin it once more. This must be frequently repeated to retain the Dressings. This Bandage, when applied to one Groin only, is called the *Spica inguinalis simplex*.

Simple Spica with two Heads.

This *Spica* may be made commodiously with two Heads, twenty-four Feet long, and three Fingers broad. Its Middle is placed upon the Right Hip *a*, *Fig. 16*. From thence the two Heads are carried round, one before, and one behind, to the other Hip *c*; there they are crossed, and passed down to the *Perinæum d*, where, being changed again, they are brought to the Hip *e*, and there cross'd a second time, and from thence round the Back and Abdomen, to the other Hip *a*. This is to be continued, till the Bandage is spent; or you may place the Middle at the *Perinæum d*; from hence the Heads ascend obliquely to the Hip *c*, from whence they pass before and behind to the other Hip *a*, repeating the same Course, till your Roller terminates; then fasten it by Pin or Suture.

The double Spica Inguinalis.

The *double Spica Inguinalis* is applied on each Side, when there is a Disorder in both Groins. This Bandage is double-headed, twenty-four Feet long, and three Fingers broad. Its Middle is generally fixed to the Back upon the Loins, and brought round the Body to the anterior Part of the *Abdomen*, where the Ends are changed; then they go round the Outside of the Thighs, pass under the Buttocks, and ascend on each Groin; there, having secur'd the Dressings, they ascend over the *Os Ilii* to their Beginning, where the Heads are again changed, and brought round to the *Abdomen*, where they are again changed, and then they descend on each Side of the *Scrotum*, and go round the Buttocks to each Groin, and so to the *Abdomen*, where they are again changed; and then they ascend the *Os Ilii*, as before, to their Beginning. This Direction must be repeated often, and the Ends fastened with Suture. This Bandage may also be used in the same manner as the knotted Bandage described above for the *Perinæum*, omitting the Knot between the Thighs. Its Middle is then applied to the *Perinæum* (see *Tab. LIX. Fig. 15. a*); the Heads ascend on each Side in the Course *b*, to the Hip *c*; then crossing, they pass round the Body to the opposite Hip *e*, and from thence descend by the *Inguen, f, g*, to the *Perinæum*, where crossing again, they return in the same Course *f, g*, to the Hip *c*, and from thence round the Body to the other Hip *e*, till at last they return over the Left Groin *b*, to the Place where they began. Repeat this till your Bandage is spent; then fasten it. The *double Spica Inguinalis* may be applied for a Dislocation of both the Thigh-bones, or a Fracture of both their Necks, or after the Operation for Ruptures on both Sides.

Bandage for Bubos.

The T Bandage is usually applied to *Bubos*, and other Tumors, in the Groins, or else that described (*Tab. LIX. Fig. 6.*) used much after the same manner. But as one of the transverse Heads *a a* is short, it is fixed in such a manner upon the Belly, that it fastens on one Side, that the Patient may tie or untie it without any Trouble. The largest Part *b* descends over the *Inguen*, betwixt the Thighs, and is reflected back over the *Nates*, to the transverse End, to which it is tied upon the Loins on one Side. We have (in *Tab. LIX.*) represented only the Bandage adapted to the Left Groin; but this, if turned on the other Side, will be proper for the Right. The same Course is to be observed as before.

Bandages for the Scrotum.

There are frequent Occasions for Bandages to the *Scrotum*, not only to retain Cataplasms on an inflam'd *Scrotum*, or swell'd Testicles, but also, in many *Hernias*, the Cure principally depends upon a proper Application of them. The Surgeons use three Sorts: 1. The most commodious is the T Bandage. The perpendicular Part must be about two Hands broad, with an Aperture to receive the *Penis* (see *Tab. LIX. Fig. 9.*) *c*, and the End slit up, till it reaches within two Hands-breadth of the transverse Part, so as to form the two Heads *bb*. When therefore the transverse Part has been brought round the Body, the *Penis* transmitted through the Hole *c*, and the two Heads *bb* have intersected each other on the *Perineum*, the *Scrotum* and Dressings are retained securely, if the Extremities *bb* are reflected back over each Thigh, and tied on the Hip (see *Fig. 8. c*). 2. Sometimes a four-headed Bandage, of four Feet long, six Fingers broad, and slit up at each End, is proper to retain the Dressings and Compresses on the *Scrotum*. The entire Part is placed upon the *Scrotum*, with two Heads tending upwards; the other two downwards. Let the *Penis* be transmitted between the two superior Heads, which come upon the sound Part, and then, going round the Body, are tied upon the Loins; while the inferior, traversing each other upon the *Perineum*, are brought forward over the Buttocks; that of the Right Side to the Left Groin, and that of the Left to the Right, (see *Fig. 12.*) and then tied. Lastly, some Surgeons make use of a Bandage resembling a Purse (*Gall. la Bourse*). It is made of strong Linen, with four Heads, proper Strings, and Holes to receive those Strings (see *Tab. LIX. Fig. 13.*); *AA* is the Purse for the *Scrotum*; *BB* is the two Swaths, which, surrounding the Body, are tied by the Strings *b*; the *Foramen C* transmits the *Penis*, and the two inferior Heads *DD* are convey'd between the Thighs, and by the *Nates*, up to the Hips, where they are tied by the Strings *EE*, in the Eyelet-holes *dd*, and are thus fasten'd to the superior Part *BB*. Some term this the *Suspensor* of the *Scrotum*. *Gall. SUSPENSOIRE*.

All the Bands here, except the Bag-truss, seem to be very ill adapted; and as that is subject to gall, none is found so useful as the Purse, which is a Piece of Linen or Woolen Cloth, according as the Case requires, made round, to receive the *Scrotum*, with the Dressings, if any be, and a Perforation for the *Penis*: To each Side of this is sewed a Piece of broad Filleting, about a Yard and half long, each End passing from the Purse over the *Os Ilii*, crossing on the Back, then brought forward, and tied on the *Abdomen*; with this you may suspend the *Scrotum* much higher than you can with the others; and it has this Advantage, of sitting easy, and not galling in walking, as the other always does.

As to Bandages for Ruptures, see *BUBONOCELE* and *HERNIA*.

Bandage for the Penis.

The little Bandage usually applied to the *Penis* for Wounds, Abscesses, Phlebotomy, a *Phimosis*, and other Disorders, is about two Feet long, and an Inch broad; one End is perforated about an Inch long, and the other is slit up about the Distance of two or three Inches, according to the Size of the *Penis* and Dressings; then the slit End is transmitted through the oblong Aperture, which we suppose to lie on the upper Side of the *Penis*; and these Ends, coming one on one Side, and one on the other, from below, invest the *Penis* and Dressings in a kind of Sling; then roll up the two Ends moderately round, in opposite Directions; and fasten them, where they terminate, with a Knot or Suture. For an Abscess of the *Glans*, or *Præputium*, it is properest to apply a Compress and Plaster, in the Shape of a *Malta Cross*, with an Aperture for emitting the Urine, large enough to contain the *Glans* and Dressings. Lastly, in a preternatural Rigidity and Inflammation of the *Penis*, which often happen in a *Priapism*, *Paraphimosis*, and *Gonorrhœa*, some very justly recommend the putting the *Penis* in an oblong Linen Bag fitted to it, which may be tied by two long Strings, either round the Waist, or upon the Groins.

Of Bandages for the Arm.

A Bandage for a fractur'd Humerus.

We have hitherto treated of Bandages adapted to the Head, Neck, and Trunk; now we shall describe those for the extreme Parts of the Body, the Arms and Legs. In a Fracture of the *Os Humeri*, after Reduction, apply a Linen Cloth, an Hand's-breadth, and a Span long, slit into four Heads, (see *Tab. XXIII. Fig. 18.*) express'd out of warm Wine or *Oxyerate*, so that the Heads may exactly meet, the one opposite to the other, on the Fracture; then take a Bandage twenty-four Feet long, and about three Fingers broad, with one Head; pass this thrice round the fractur'd Part, immediately above the former; then ascend, by degrees, in obtuse spiral Directions, (*Gall.*

Dolaires) up to the Shoulder; and, after making a Circumvolution round the *Thorax*, and under the Arm of the sound Side, (which some omit) return to the affected Shoulder; then descend gradually in the like spiral Course, till your Roller again forms three Circles upon the fractur'd Part. Before Application moisten your Bandage with warm Wine, *Spirit of Wine*, or *Oxyerate*, in order to retain the Fracture more firmly. The Roller at last must descend spirally to the Elbow, so as to form two or three spiral Circumvolutions round it below its Flexure, leaving the *Olecranon* disengaged, and free for Motion; by which means it will adhere more firmly to the Part. After this you lay four Splints, six or eight Fingers long, and two broad, according to the Length of the Bone, upon the Fracture, at equal Distances, first moistening them with warm Wine or *Oxyerate*; then you proceed again spirally from the Elbow to the fractur'd Part, where having form'd three Circles, your Bandage must ascend in spiral Directions to the Shoulder. If the Splints are well cover'd, and there is still a Remainder, that must descend spirally, though at greater Distances, upon the Arm, for the better Security of the former Rounds, pin it where-ever it terminates. Lastly, it is usual to apply three or four Plates, of about a Span long, and two or three Fingers broad, made of Wood, Steel, or thin Brass, though commonly of stiff Pasteboard, according to the Length of the fractur'd Arm (see *Tab. LII. Fig. 17. aaa*); these Plates are tied with three Tapes, about two Feet long, beginning first with the middle String; let the Knots be upon the external Part of the Arm, for the greater Convenience of tying and untying them. See *Tab. LIX. Fig. 17. bbb*.

Treatment after the Bandage.

Having thus completed the Deligation, the Arm is to be suspended in a Sling, (*Gall. Escarpa*) and inflected so that the Hand may come over the *Scrobiculum Cordis*. If the Fracture be oblique, it is more proper for the Weight of the Arm to be less supported, lest the lower Fragment should ride over the upper; but, if it is transverse, the Sling should be shorter: For this Use, a large fine Napkin is proper, folded in such a manner, that the Middle *cccc* may sustain the Elbow of the fractur'd Shoulder, and its Extremities be tied about the Neck at the Knot *d* upon the sound Shoulder. Some Surgeons, instead of one long Roller, use three short ones, for a fractur'd *Humerus*: The first eight Feet long, or, according to some, but six; the next six; and the other six and an half. The first is spent in ascending Revolutions, the second in descending, and the third in Circles about the Fracture itself. This Method is convenient enough. Some apply the Plates designed for retaining and strengthening the Bone, upon the Compresses; and spend the third Bandage, or last Part of the long one, in securing them upon the Part. This likewise will answer the End proposed. Observe, the first Bandage should not be taken off, unless upon some extraordinary Occasion, before the fourth or fifth Day; nor the second till the eighth; nor the third till the twelfth or fourteenth, when the Fragments of the Bone may be supposed to cohere firmly; which, as Experience shews us, is completed in this Bone within forty Days.

How to prevent an Anchylosis.

After the Bandage has been renew'd a third time, the Arm must be gently bent, to prevent an *Anchylosis*, or Stiffness of the Elbow. If it has already contracted any Degree of this Disorder, use proper Ointments, Fomentations, or Cataplasms, move the Joint often, and let the Patient swing round a Weight every Day in his Hand. It is very serviceable, in this Case, to put the Arm into the Belly of an Animal just kill'd; because this Warmth will conduce very much to restoring its Mobility; but, for the Use of astringent Spirits, which some recommend, they are very injurious.

When the Fracture is near the Humerus.

If the Fracture of the *Os Humeri* is in its Neck, or near the Shoulder, the Case is dangerous, and the preceding Bandage will be of little or no Service. Apply therefore the *simple Spica* recommended above, with this Difference, that the Deligation about the Shoulder be more exact and firm. *PERRIN, Lib. de Morb. Off.* thinks the Bandage of eighteen Heads (see *Tab. XXX. Fig. 9.*) adapted to this Fracture; but this will not sufficiently retain the fractur'd Parts.

Bandage for a fractur'd Cubit.

For a Fracture of the lower Arm or Cubit after Reduction, according to the Directions given under the Article *Fractura*, apply closely round the Fracture a Linen Cloth of a Span long, and an Hand's-breadth, slit on each Side, as we described for a fractur'd *Humerus*, (see *Tab. XXIII. Fig. 18.*) dipt in *Oxyerate*, or *Spirit of Wine*; after this apply two thick Compresses, in Length almost equal to the *Ulna*, one on each Side over Splints of equal Length, made either of Wood or thick Paper: Then fix a single-headed Roller, of about eight Feet long, and three Fingers broad,

board, upon the Compresses and Splints, or, if you omit the Splints, upon the Compresses only; which, after forming two or three circular Rounds about the fractur'd Part, must ascend gradually in a spiral Direction above the *Cubit*, and there form two or three more Circles, before it terminates; then, upon the End of this, you fix another Roller, fastening it by a circular Turn or two, which descends by degrees spirally down to the Hand; and, taking in the Thumb, as in a Loop, is drawn back to the *Carpus*; and there, after forming a Circle or two, is pin'd. You are next to take two Splints of thick Pastebord, almost the Length of the *Ulna*, and broad enough to invest the Part; and, dipping them in *Spirit of Wine* or *Oxycrate*, place them, one on the Outside, and the other on the Inside, of the Elbow; these are to be retain'd by a Bandage twelve Feet long, and almost three Fingers broad, which is fix'd to make some circular Rounds about the Middle; then ascend spirally to the Flexure of the *Cubit*, and then descend again. The Extremity must be pin'd or sew'd; though there is no Objection against retaining this Bandage by three or four Strings, as represented (*Tab. LIX. Fig. 17. bbb*) for the *Os Humeri*. There are Surgeons, who, after the Deligation, use but one Pastebord-splint, in which they place the Arm, as in a Trough. This, they think, promotes Agglutination (see the Representation, *Tab. XXIX. Fig. 8.* and the Application, *Tab. LIX. Fig. 17. cc*). When these Directions have been follow'd, the Arm must be suspended in a Sling about the Neck (see the same *Fig. ccc*). Thus a Fracture of the *Cubitus* may be perfectly cur'd within thirty Days.

Bandage for a fractur'd Carpus.

For a Fracture of the *Carpus*, after Reduction, apply round the Part, in three circular Turns, a single-headed Roller, twenty or twenty-four Feet long, and two Fingers broad; then carrying it between the Thumb and fore Finger, from the Back of the Hand into the Palm, from thence reflect it over the Ball of the Thumb, and back Part of the *Carpus*, (by which Turn the Bandage resembles the Letter X, immediately above the Thumb) rolling it thrice round the *Carpus* again; after this, it must ascend spirally above the Juncture of the Elbow; then, having fix'd two Compresses, one on the Outside, and the other on the Inside of the *Carpus*, equal to its Breadth, it descends to the Hand, to retain the Compresses firmly. Lastly, you place two Pastebord-splints over the Compresses, which must be bound very exactly by the Remainder. The Arm is to be carried in a Sling, as at *Fig. 17*.

Bandage for the Metacarpus.

After the Reduction of any of the metacarpal Bones, the preceding Bandage for the *Carpus* may be applied in three circular Rounds about the injur'd Part; then, passing it between the Thumb and fore Finger, it is carried round the *Carpus*; after which it returns to its former Course, by crossing over the Back of the Hand like an X. This being thrice repeated, it is brought several times round the *Metacarpus*, and then by degrees ascends spirally above the Elbow, as we said. After this, you apply two Compresses, with Pastebord-splints, one to the Palm, the other to the Back of the Hand, (see *Tab. LVII. Fig. 5.*) which are bound tight by the Remainder.

Bandage for a Luxation of the Cubit.

For a Dislocation of the Elbow, after reducing it, a Linen Cloth dipt in *Wine*, *Spirits of Wine*, or *Oxycrate*, and slit, (as in *Tab. XXIII. Fig. 18.*) must be applied round the Flexure of the Elbow. Then take a single-headed Bandage, about twenty Feet long, and two Fingers broad; with that make two Circles above the Bending of the *Cubit*, as after Phlebotomy, and likewise two under it; then let your Roller ascend again obliquely up the Inside of the Arm, and intersect the former; after which, make two more circular Rounds about the lower Head of the *Humerus*, so that your Bandage may resemble the Figure of 8. This done, the whole Arm is to be rolled up in a large Linen Cloth dipt in warm *Spirit of Wine* or *Oxycrate*, and invested spirally by a Roller. Though some are of Opinion, that this long Linen Cloth is entirely needless, since the Cure may be performed by a simple spiral Bandage continued up and down the Arm, after it is moisten'd with the fore-mention'd Liquors; but it may be of Service to prevent Tumors and Inflammations. Lastly, after this Deligation, the Arm should be suspended in a Sling; but, to prevent a Stiffness, let it be sometimes gently bent and extended.

Bandage for a Luxation of the Carpus.

For a Dislocation of the *Carpus* after Reduction, the preceding Bandage, carried thrice round the affected Part, will prove commodious; then passing it between the Thumb and fore Finger, go backwards round the Ball of the Thumb, traversing it on the Back of the Hand, and carrying it in a circular Turn round the *Carpus*; after repeating this several times, bind the *Carpus* with two thick Pastebord-splints, about two Hands-breadth long; then put a Ball in the Patient's Hand, to

extend his Fingers; all which are to be secur'd by spiral Turns above the Elbow, to prevent Tumor and Inflammation.

Bandage for Bleeding in the Arm.

After bleeding in the Arm, the Bandage should be four, or rather six Feet long, and two Fingers broad: It is variously applied; but, in my Opinion, the best way is, to fix its End upon a square Compress, which covers the Orifice; and let about a Span of it hang down above the Outside of the Flexure of the Elbow; then it descends obliquely over the Inside of the Arm, and, forming a Circle below the Bending of the *Cubit*, ascends again obliquely to the same Place, and resembles a Figure of 8: The Turns intersect each other in the Middle of the Flexure: This Course of the Figure of 8 is to be repeated, till the Bandage is near spent; then the Ends are to be tied on the Outside above the Elbow (see *Tab. XXIV. Fig. 1. D*). If a String is fasten'd to each End, as is frequent in Germany, the Deligation may be very neat; for they make but a very small Knot, and the Roller need not be above four Feet long. The Method of Application is the same.

Bandage for a Puncture of the Artery in Bleeding.

For a Puncture of the Artery in opening the Vein of the Arm, let the Patient bleed *ad deliquium*; then fix two or three Compresses, in one of which put a Piece of Money, for the greater Pressure of the Bandage upon the affected Artery; after this, take a single-headed Bandage, of twenty or twenty-four Feet long, and two Fingers broad; and, rolling it two or three times above the Elbow, you proceed as after Phlebotomy, but bind it something tighter. Having made five or six Turns like a Figure of 8, apply a narrow oblong Compress from the Bending of the Elbow to the Axilla, on the Inside of the Arm, so as to lie exactly on the primary brachial Artery; then your Roller must ascend gradually, by pretty thick spiral Turns, to the Top of the Shoulder, to suppress the Flux of Blood through that Artery; from thence pass it obliquely over the Breast, under the opposite *Axilla*; and, bringing it round again to the Shoulder of the injur'd Arm, descend upon the Arm in spiral Turns, contrary to the preceding. Fasten it where-ever it terminates. If you have not a Bandage of a proper Length ready, apply a shorter, and let an Assistant compress the Wound and brachial Artery with his Hand; for too long Delay would expose the Patient to a dangerous Hemorrhage; for there is no Objection to applying the long Roller over the short one, with proper Compresses, and in the manner directed. After Deligation, the Arm must be suspended in a Sling about the Neck, (as at *Tab. LXI. Fig. 17.*) without the Trough *&c.* Let the Patient abstain from Motion, heating Diet, and spirituous Liquor.

Bandage for an Aneurism.

The preceding Bandage may be applied to small *Aneurisms*, both where the Operation is necessary, and also where Bandage alone is sufficient. First compress the Tumor with your Finger, so that the extravasated Blood may return to the Artery; then apply an astringent Plaster, and a thick Compress, with a Piece of Money, or other hard Substance, included in it; these must be proportionable to the Size of the Arm; upon this first Compress, fix several others, in the manner described under the Article ANEURISMA. This Bandage must be worn a considerable time. *Hildanus* has given us Instances of Cures perform'd in this manner, in *Centur. III. Obs. 43, 44.*

Bandage for Phlebotomy in the Hand.

After opening a Vein in the Hand, particularly the *Salvattella*, apply two small Compresses, and carry your Roller above four Feet long, without any Strings, in two Circles, round the *Carpus*; then over the Back of the Hand, between the Ring and little Finger; next reflect it back again, between the first and middle Finger, to the other Side of the *Carpus*, crossing like an X. This Direction round the Ring Finger and *Carpus* must be thrice repeated; and then, making as many Circles round the latter, as the Bandage will permit, fasten it.

Bandage for a burnt Hand.

After the Application of Remedies proper for a Burn, take a Bandage, twenty-four Feet long, and an Inch broad; carry it in two Circles round the *Carpus*; hence cross the Palm of the Hand to the little Finger, which is first to be invested by spiral ascending Turns; and then, by descending from thence, pass it to the Ring Finger, which is to be cover'd in the same manner; and then to the middle and fore Finger (see *Tab. LIX. Fig. 18. a, b, c, d*). After this, convey it in several Circles round the *Metacarpus*, betwixt the Thumb and fore Finger *&c*; having thus involved the *Metacarpus*, invest the Thumb *f*, as you did the Fingers; then the interior Part of the *Metacarpus* is to be invested in spiral Circles *g g g*, and the Remainder to terminate circularly upon the *Carpus h*, where it began.

Bandage for a Fracture of the Thumb.

For a Fracture of the Thumb after Reduction, take a single-headed Roller, an Inch broad, and six or eight Feet long; fastening this with two circular Turns round the *Carpus*, carry it to the fractur'd Part, and invest that by three Circles; then fixing two Splints of thick Pastebord, one on the Inside, the other on the Outside of the Thumb, form three more Circles upon that. Lastly, bring your Bandage to the *Carpus*; and, after two or three Rounds, fasten it. If both Internodes of the Thumb are fractured, use the same Roller, with this Difference only, that you repeat the Circles on each Fracture separately, and extend the Splints over each Joint.

Bandage for a fractur'd Finger.

For a Fracture of the Finger, apply the preceding Bandage in the same manner, only observing to bind the next sound Finger to the fractur'd, which will support it, till the Fragments are united.

Bandage for several fractur'd Fingers.

For a Fracture of several Fingers, after Reduction, with a Bandage twelve Feet long, and two Fingers broad, make two circular Turns about the *Carpus*; from hence carrying it over the Back of the Hand to the fractured Fingers, bind it round each Finger separately, as in the preceding Bandages, and afterwards bind it round them all, so as to leave no Part uncovered; then put a proper Piece of that thick Pastebord into the Palm of the Hand (see *Tab. LVII. Fig. 5.*) and bind it tight: Though some direct to retain the Fingers a little inflected, by putting a Ball into the Patient's Hand, which is also to be bound tight. But whatever Method you take for supporting the Fingers, the Roller must always pass from each Finger, after it is rolled up to the *Carpus*, round which give it a Turn, and then proceed and roll up the next, and then place the Hand in a Sling, fastened about the Neck.

Bandage for dislocated Fingers.

Dislocated Fingers in general may be easily cured by Extension, without any Bandage. But if, through Neglect or Weakness of the Joint, a Bandage seems requisite, use the following Method: Take a Roller, six Feet in Length, and a Finger in Breadth, and make two circular Rounds about the *Carpus*, as in Fractures; then bring it over the Back of the Hand to the luxated Finger; there bind it about the affected Joint, and, crossing it, let it return to the *Carpus*; this being thrice repeated, fasten it about the *Carpus*, where it terminates. If more Fingers than one are dislocated, let each be bound up separately, in the same manner. The French call this Kind of Bandage, *le demi Gantelet*, the half Glove, as it covers the Hand only, without the Fingers.

Bandage for an amputated Finger.

When Part of a Finger has been cut off by Accident, or on account of a Mortification, *Sphacelus*, or *Caries* of the Bone, after the Application of proper Remedies, use the Bandage directed for the Penis, viz. first some scraped Lint, then a Plaster and Compress in the Form of a Malta Cross (see *Tab. XXIII. Fig. e*); then bind a Fillet a Foot long, and a Finger broad, (see *Tab. XXIII. Fig. e*) round the affected Part.

Bandage for an Amputation of the Hand or Cubit.

After an Amputation of the Hand or Elbow, having applied proper Remedies, Lint, and Compresses, a Bandage, with two unequal Heads, twenty or twenty-four Feet long, and three Fingers broad, must be fixed about an Hand's breadth above the mutilated Place *c* (*Tab. LIX. Fig. 19.*): then make three or four Circles, to secure the Dressings *a* upon the Wound; next carry one of the Ends from *c* over *d*, and ascend on the other Side, crossing it by the other End, which binds it down, and continues moving round the Limb; after this, the first Head is returned obliquely over the Stump to its Beginning, as in the *Cupeline* for the Head and Clavicle. This Course must be repeated, till the affected Part and Dressings are well-covered and secured; the Extremity of the shorter Head must be fastened by the spiral Rounds upward and downward of the longer, fastening the last, where-ever it terminates, by Suture. Always observe to tighten this Bandage, which will retain the Dressings more firmly upon the affected Part, and, by its Compressure, prevent Bleeding. When the Surgeon has performed his Office, let the Patient be put into Bed, and the affected Limb laid upon a Pillow: Further, an Assistant should hold the Parts with his Hand, till there is no Danger of an Hemorrhage. Lastly, when the Patient is allowed to leave his Bed, the affected Arm should be supported in a Sling about the Neck, (see *Fig. 17. c c*) till the Wound is healed.

Bandage for an amputated Arm.

When the Arm is cut off above the Elbow, after tying up the Arteries, the Deligation must be performed almost in the preceding Manner: But, in this Case, your Roller must be twenty-four Feet long, and fixed upon a narrow, thick Compress, which is placed on the Inside of the Arm, upon the brachial Artery. If the Arm happens to be taken off near the Shoulder, the Remainder being but three or four Fingers-breadth long, after tying up the Blood-vessels, you must use a Bandage thirty-two Feet long, and three Fingers broad, so that the Head, which, in the former crossed over the Stump, may be brought round the *Thorax* under the sound *Axilla*, to the amputated Part, and closely invest it; for otherwise the Roller will not adhere firmly, but easily slip off the Shoulder. If there is little or no Stump left, it will be proper to follow the Method we shall presently lay down for an Amputation of the Arm in its Articulation with the *Scapula*.

Bandage for an Amputation at the Joint of the Shoulder.

After an Amputation of the Arm in its Articulation with the *Scapula*, proceed thus: Take a single-headed Roller, forty or forty-eight Feet long, and two Fingers broad; place it under the sound Arm, and let an Assistant hold it with his Fingers; from thence carry it over the *Thorax* to the amputated Shoulder; over that bring it back to the sound *Axilla*: This Course must be repeated again; after which, the Roller passes from under the sound Arm, over the same Shoulder, to the Back and affected Part; from thence over the Breast under the sound Arm, and passing round the same *Humerus*, returns and crosses upon the Breast: After a frequent Repetition of this Course, the Remainder is spent in Circles about the *Thorax*, and amputated Part, to retain the Dressings; sew it where it terminates.

*Of Bandages for the Leg and Thigh.**Bandage for a fractured Thigh.*

For the Fracture of the Thigh, the Bandage must be different, according to the different Circumstances, as it happens sometimes in the Neck of the Bone, sometimes in the lower, middle, or upper Part of it; besides, it may be transverse, or oblique, and then the Application must be different. If the Fracture is below the Neck of the *Femur*, either in the Middle, or towards the Knee, after following the Method proposed under the Article FRACTURA, you must apply three Bandages, two of which must be sixteen Feet, and the other twelve in Length; each three, or, if it is necessary, four Fingers broad, all of them single-headed: But, before the Application of the Roller, dip a single Piece of Linen, slit into four Heads, (as in *Tab. XXIII. Fig. 18.*) in warm Wine, Spirit of Wine, or *Oxycrate*; fix it round the fractured Part with the Heads crossing each other; then a thick Compress of a proper Length must be laid upon the Thigh, to fill up the posterior natural Cavity of the Bone, lest without this the Bandage should straighten and elongate the Bone too much: Afterwards two Assistants, holding the Thigh above and below the Fracture, should elevate it, while the Surgeon proceeds in the following Method: He must first fix the shortest Roller in three tight Circles round the fractured Part, as we directed for the Arm; then it ascends spirally towards the Groin, and is there fasten'd, after some circular Turns. Next he takes one of the long Rollers, and forming three Circles more, but in an opposite Direction, and fixing a Compress thick enough to make the inferior Part equal to the superior, he descends spirally to the Knee, where, after three circular Rounds, the End is to be fasten'd. It is necessary to observe, that an oblique Fracture requires a tighter Bandage than a transverse. Further, he applies four Compresses of a Span long, and three Fingers broad, each covered with a Splint of the same Length and Breadth, for retaining the Fragments of the Bone, as we have directed in a Fracture of the Arm. In the next Place, the third Roller, twelve Feet long, must be fastened, beginning with three circular Rounds over the Fracture, from thence ascending by spiral Turns upwards, and then descending in the same manner, till the Splints are covered. The End must be well fastened where-ever it terminates. Lastly, the whole Thigh must be invested by two larger Splints of thick Pastebord, dipt in warm Wine or *Oxycrate*, and tied with three or four Strings, as we directed for the Arm (see *Tab. LIX. Fig. 17. a a a, b b b*).

Position of the Femur after the Bandage.

When the Deligation is thus perfected, the next Consideration is a convenient Position of the Thigh. A Linen Mattress, with two cylindrical Sticks covered with Straw, which the French call *Panons*, the Germans *Strohblade*, and some a Straw-bed, seems to me the most commodious for this Purpose (see *Tab. XXX. Fig. 5.*). But here the two Sticks A, A, A, A, must

must not be of the same Length, as for the *Tibia* or *Leg*, for which (*Fig. 5.*) is adapted; for that which is put within the *Legs*, should reach from the inner Ankle to the Groin, and the external one from the outward Ankle to the Hip, or, according to some, up to the *Axilla*; for if they are too short, especially in an oblique Fracture of the Thigh, it is more than probable the Patient will be lame. When the Limb is thus carefully extended, so that the great Toe lies in a direct Line with the *Patella*, or a little more outward; the intermediate Spaces between the Ankle and Ham must be filled up with Lint or Tow. Some Surgeons invest the whole Thigh and Leg with large Compresses, to secure the Bandage more firmly, and prevent any Injuries from the external Ligatures: Others think this superfluous, and it is most usual to fasten the Straw-case about the whole Leg and Thigh, with seven Strings, each a Yard long, three upon the *Tibia*, (see *Fig. 20. A, B, C*) three upon the Thigh, and the seventh, which must be the longest, upon the *Abdomen*; though, instead of this last, some fold a Napkin round the Belly. I shall observe with regard to these, not only that they ought to be put under this Straw-case, before the Leg is put into it, to prevent Danger by moving, but also the middle String should be tied first; and lastly, that the Knots should be on the Outside of the Bed, both for Neatness and Conveniency. Place the Sole of a Slipper or Pasteboard, cut into a proper Shape, (see *Tab. 30. Fig. 6. 7.*) at the Bottom of the Foot; tie it on by the three Strings *a, a, a*, so that those two on the Sides may intersect each other (see *Tab. 59. Fig. 20. e, f*); then pin them to the Roller; but the third and uppermost *g* may be fastened to the most convenient Part of the Straw-case: Thus may the Limb be retained in its natural Posture, and, after the Completion of the Cure, the Patient be capable of standing upon his Leg. It may be proper, for preventing too hard a Pressure of the Foot-board, to put a convenient Compress between that and the Sole. (See *Tab. 30. Fig. 7.*) Likewise fix a large Bolster of Tow, made in the Form of a Ring, to admit the *Calcaneum* (see *Fig. 8. a*); and tie it round the Tarsus, with the Strings *b b*, to prevent an Inflammation, which often arises from a long Pressure of the *Calcaneum* against the Bed. If this Contrivance does not succeed, and the inferior Part of the *Tendo Achillis* is hurt by this Sling, you must take a Roller, about five Fingers broad, roll'd up into two large Heads, which Heads fix with Suture about an Inch Distance from each other; then place them under the Ankle, so as the Ankle may rest upon the *Habena*, between the two Heads, which will suspend the *Calcaneum*, and keep it from pressing upon the Bed, which is a thing of great Consequence. Lastly, if this should prove troublesome, as it sometimes happens, you may put some soft Lint between them; after this, place a soft Pillow under the Leg and Thigh, but lower under the Thigh than the Leg. Some put a smooth Board under this Pillow, to keep the whole Limb, from the *Calcaneum* to the Hip, in its natural Posture; and, lest it should decline to either Side, you must fasten these Ligatures to the middle String on the Leg, and to Nails drove on each Side of the Bedstead; then roll up a Pair of large Sheets, and lay them on each Side of the Limb. This Method is equally adapted to Fractures of the Thigh, as well as the Leg. Lastly, some apply a kind of Arch, made of a Portion of small wooden Hoops, which *Scultetus* represents *Tab. LVI.* or half a Drum, or of a Sieve, that the Bed-clothes may not press upon and hurt the Part affected. For what further concerns the Posture of the Patient, consult the Rules we have already laid down.

Bandage for an oblique Fracture of the Thigh.

In an oblique Fracture of the *Femur*, the Surgeon ought to take particular Care, that the Deligation is tighter, and the Limb kept duly extended. Let a large Linen Cloth be placed between the Thighs in such a manner, that one Part may be brought over the Groin of the affected, the other under the Buttock of the sound Thigh, both fastened with Nails to the Bedstead, that the Patient's Body may not slip. Likewise, a strong Ligature must be made above the Knee, and fasten'd to the Bottom of the Bedstead, to keep the injur'd Limb from slipping upwards. If these prove troublesome, you are to change them, by passing the upper one under the Buttock of the affected, and over the *Inguen* of the sound Thigh. As to the Stay above the Knee, it will certainly prove troublesome; but, before you undo it, a strong Ligature must be made above the Ankle, (with a Piece of Cloth under it to keep it from galling) and fasten'd to the Bottom of the Bed; and this may be done alternately, till the Fragments may be judged to be firmly united, always observing to fix the one before you undo the other. Besides, it will be very proper to fix a little Block covered with Linen, at the Bed's Feet against the sound Foot, that the Patient may raise himself, and extend the other, when he finds he has slipped down. This Method is as convenient for the Cure of transverse, as oblique Fractures of the Thigh.

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Method of renewing the Bandage.

This Bandage, without an extraordinary Occasion, should not be taken off before the eighteenth or fourteenth Day: But if it proves too tight, too lax; or any other unforeseen Accident renders it necessary, remove and renew the upper Bandage with the utmost Caution. It is no less hazardous to take off the second or third, within a Fortnight; and indeed the last should continue till the Cure is complete, which is generally six Weeks, tho' in Patients of a bad Habit of Body, or advanced in Years, it is sometimes eight, nine, or ten Weeks, before the Fragments of this large Bone are agglutinated: And, when the Cure seems to be accomplished, the Patient should not, for some time, walk without Sticks or Crutches, lest the Bone, so lately reduced, should relapse into a second Fracture.

Bandage for a Fracture in the Neck of the Femur.

For a Fracture in the Neck of the *Femur*, apply the *Spica inguinalis*, described above (*Tab. 59. Fig. 16.*). But your Roller must be sixteen or twenty Feet long, and three or four Fingers broad; bind it very tight, and keep the Limb well extended downward; for otherwise the strong femoral Muscles will draw the lower Part of the Bone above the upper, and so prevent the uniting with the Head; consequently that Leg will be shorter than the other, and the Patient be lame. Terminate the Roller by Circles round the Thigh, and then pin or sew it. The Limb must be put into a Straw-case, as before, and the Patient ordered to lie very quiet.

Bandage for a Luxation of the Femur.

A Dislocation of the Thigh, contrary to the common Opinion, very seldom proceeds from any external Violence, but generally from some internal Disorder, viz. a Collection of viscid Humours. Therefore, when the Head of the Thigh is thrust out of its Socket, and its Ligaments debilitated by the Humours, it is very difficult to disperse them, and the Patient generally halts afterwards. However, to give the best Assistance we can, first moisten a Compress in warm Wine or *Oxyerate*; then lay it round the Joint of the affected Thigh, and secure it by the *Spica Inguinalis* (*Tab. 59. Fig. 16.*). Let the Patient keep his Bed for a whole Month. If it proceeds from a Distortion of the Ligament, you should repeat, several times in a Day, Fomentations of rectify'd Spirit of Feverfew, Rosemary, or Lavender, to the Part; or cherish it with Baths, and comforting Vapours; or cover it with strengthening Plasters.

Bandage for a direct Fracture of the Patella.

We have already observ'd, that a Fracture of the *Patella* may be transverse, or direct: For a direct Fracture, after Reduction of the Fragments, and desending the Tendons in the Ham with a thick Compress, apply the uniting Bandage, (see *Tab. XXIII. Fig. f*) of twelve Feet long, and two or three Fingers broad, slit in the Middle longitudinally, about three Fingers-breadth, and rolled up with two Heads: It is used much after the same manner, as that for perpendicular Wounds in the Forehead (*Tab. LVIII. Fig. 3.*). The Middle of the Aperture is laid on the *Patella*, and one of the Heads, being brought round the Ham, passes through the Slit; then they are both to be drawn tight, and invest the Fragments; then each is carried above and below the Knee, till the Bandage is spent. In the mean time, examine with your Finger, whether the fractured Parts are duly conjoin'd: After this, you fix on the *Patella* a Compress, and under the Ham a strong Pasteboard-splint, both dipt in warm Wine, and secured by a Bandage eight or twelve Feet long, in spiral Turns, that the Knee may be properly extended, till the Fracture is conjoined, and has acquired an equal *Callus*. Lastly, the Straw-case (see *Tab. XXX. Fig. 5.*) is apply'd, and ty'd with three or four Strings, as at *Tab. LIX. Fig. 20.*

Bandage for a transverse Fracture of the Patella.

When the *Patella* is fractur'd in a transverse Direction, which is the most common Accident, after the Extension of the Limb, and Reduction of the Parts, with the usual Plaster, you take a Bandage twelve Feet long, and three Fingers broad, which is either double or single-headed: The first is apply'd just above the Knee (see *Tab. LIX. Fig. 22. a*) by making a circular Round about the Thigh *d*; then crossing them at the Ham, you bring them obliquely below the Knee at *e*; they are then reflected back, and the same Direction repeated above and below the *Patella*, as long as the Roller lasts: Be very careful to keep the fractured Parts together, in their due Position.

2. If the Bandage is single-headed, fix its End above the *Patella a*; then make some Circles round the Thigh *b*, to fasten the End *d*; from hence you convey it obliquely under the Ham, to the upper Part of the Leg, where you form the circular

cular Turn *e*, close to the lower Half of the *Patella*; thence bringing it obliquely cross the Ham, and intersecting the former, you go round the Bottom of the *Femur d*. Continue this Course as long as your Bandage lasts. Observe to keep the fractur'd Parts adequately together, during the Operation; and, when it is performed, place upon the *Patella* a Compress moisten'd with warm Wine or *Oxyerate*, and upon the Ham a Splint; these must be retained by another Bandage carry'd spirally, that the Knee may not have the least Motion, which would be very prejudicial. Some use a peculiar Instrument to keep the Leg extended, and from moving, and not without Success. Lastly, you may use the Straw-case (See *Tab. LIX. Fig. 20.*). But, since the Limb must be kept thus extended and bound for nine or ten Weeks, so that it may not be infected before a complete Conjunction, the Patient must necessarily have more or less of a Rigor or Anchylosis; which will render him lame on that Leg, and which you must endeavour to mitigate, by frequently applying emollient Topicals, as Ointments, Fomentations. We shall conclude with the common Observation, that Men, who have once fractured this Bone, will, from the Weakness of the Joint, be ever afterwards liable to fall, and break it again, which is attended with a continual Halting.

A third Bandage for a fractur'd Patella.

As it is so difficult a Task to retain the Fragments of a transverse Fracture of the *Patella*, there is a third Bandage contrived, which is made of Linen thrice folded, about two Feet long, and eight Inches broad. One End *A* (see *Tab. LIX. Fig. 23.*) is left entire; they cut a Piece *C D*, two Inches broad from the other *B B*; the entire End is fixed upon the anterior Part of the *Femur*, (see *Fig. 22. d b*) in such a manner, that the excavated Part invests the *Patella*; then they apply the single-headed Roller, as before, in three Circles, round the Thigh, over the Compress, in the Direction *d*, *Fig. 22.* over these Circles they reflect the entire End of the Linen, and then repeat the Round at *d*, three times more, to fasten it. In the next place, an Assistant draws the two Heads *B B*, *Fig. 23.* tight, so as to bring the superior Half of the *Patella* to the inferior; then the Roller, crossing over the Ham, makes three Circles below the *Patella e*; after this, the two Heads are reflected upwards over these Circles, and secur'd by several other Rounds. The Remainder is spent in circular Turns above and below the *Patella*, and fasten'd by a Pin or Suture. Observe the former Directions for keeping the Patient quiet. You may also use the double-headed Roller.

Another Bandage for a transverse Fracture of the Patella.

In a transverse Fracture of the *Patella*, the Dressings are these: First, fold a Napkin in three; and, rolling it up at both Ends, you put a Piece of Pisteboard in the Middle, which is to be applied to the Ham, to keep the Leg from being bended; the two roll'd Ends are apply'd to the Sides of the Joint; a Sling, with four Tails, with a Hole in its Middle for the *Patella*, is apply'd along the Thigh and Leg; then, pressing down the superior Part of the *Patella*, you put a very thick Compress above it; and, pressing up the inferior Part, you put such another Compress below it; then you take a double-headed Roller, and begin on the superior Compress, cross in the Ham, (where you must also have a Compress) and upon the inferior Compress, and so on, until the two Pieces of the *Patella* be secur'd in mutual Contact; and, after applying a square Compress, dipt in a proper Liquor, to the bare *Patella*, you bring down one of the Tails of your Sling, laying the Tail at the opposite Corner above it, and so of the other two Tails; then fix them, and apply the Napkin, as before directed, making it fast with the same Band as for the Luxation of the *Cubitus*. The Advantage of this way of Dressing is, that you can have a View of the *Patella* at Pleasure, without being in Danger of disturbing the Fracture, it being secur'd by the first double-headed Roller; and if you find any Distance betwixt the two Pieces of the *Patella*, you can bring them nearer, by pulling the two Tails of the Sling in opposite Directions.

Bandage for a Luxation of the Knee.

There can be no Bandage more commodious for a Dislocation of the Knee, than those directed for the *Patella*, especially that for the transverse Fracture of the *Patella*. In this Case, the Patient should remain quiet for eight Days, till the Ligaments are supposed to be sufficiently firm.

Bandage for a Fracture of the Tibia.

For a Fracture of the *Tibia*, two Bandages are requisite, one twenty, the other twelve Feet long, each three Fingers broad; to these add four Compresses, and as many Splints, each a Span long; and, lastly, every thing order'd above for a fractur'd Femur. First, apply a Piece of slit Linen, (see *Tab. XXIII. Fig. 18.*) dipt in *Oxyerate*, or *Spirit of Wine*, to the fractur'd Part, so that the Heads may cross each other; then

form three circular Turns with the first Bandage over this Linen; from whence gradually ascend in spiral Rounds above the Knee, without covering it; then return in the same manner; and, having form'd three Circles upon the affected Part, descend upon the *Calcaneum*, reinversing the Roller, by reason of the unequal Thickness of the *Tibia*. You next apply the same Compresses and Splints as for a fractur'd Arm; but the Compresses must be folded together towards the Bottom, in such a manner, that the *Tibia* may be equally bound every-where (see *Tab. XXX. Fig. 13.*). Lastly, apply two Pisteboard-splints, dipt in warm Wine or *Oxyerate*, and tied with three or four Strings; then put the Limb into a Straw-case, (see *Tab. XXX. Fig. 5.* and *Tab. LIX. Fig. 20.*) which must reach not much below the Ancles, nor more than an Hand's-breadth above the Knee, which is likewise tied with three or four Strings *a, b, c, d*; the vacant Spaces must be fill'd with Lint or Tow. And lastly, a Foot-board, with its Sling for the Heel, (*Tab. XXX. Fig. 6, 7, 8.*) must be plac'd at the Bottom of the Foot, as represented *Tab. LIX. Fig. 20. C.*

Bandage for a Fracture of the Tarsus and Metatarsus.

For a Fracture of the *Tarsus* and *Metatarsus*, you may use either a single or double-headed Roller; if you apply the latter, it must be twelve Feet long, and two or three Fingers broad. It is put round the Ankle (see *Tab. LIX. Fig. 24. A*) over a Compress slit at both Ends, (see *Tab. XXIII. Fig. 18.*) dipt in *Oxyerate*; and having there form'd a Circle, the two Heads cross over the Juncture of the Foot, are carried down round the *Tarsus* and *Metatarsus B*; then, crossing again under the Sole of the Foot, they ascend, and traverse each other upon the *Tarsus*, till the whole Foot is duly cover'd; then they go again round the Ancles, and, after two or three circular Turns, are fasten'd.

A single-headed Roller must be used in the following manner: After having fasten'd the Head by two or three circular Turns about the Ankle, descend obliquely over the *Tarsus* to the Bottom of the Foot; from thence ascend, and renew the former Course, crossing upon the *Tarsus* up to the Ancles, so that it resembles a Figure of 8 about the Foot and Ankle. When you have invested the affected Part by some spiral Turns, the Roller must be carried two or three times round the Ankle, and there fasten'd. If the Fracture is very bad, a Straw-case, with its Foot-board, *Fig. 20.* will be very serviceable. The same Deligation is proper for Fractures of the Toes, provided you invest them with spiral Turns. This Bandage is termed by the Antients *Sandalina* or *Sandalium*, a kind of Slipper worn by them.

Bandage for a Luxation of the Foot.

For a Luxation of the *Tarsus* or Ankle, you proceed in your Deligation as for a Fracture. The Patient ought to keep his Bed for some Days, and bathe the Part with some strengthening Spirit, till the Ligaments recover their antient Vigour, and the Pains cease.

Bandage for Phlebotomy in the Foot.

The Bandage for Phlebotomy in the Foot is made of a single-headed Roller, six Feet long, and two Fingers broad. The End is laid on the Outside of the Foot, so that about a Span hangs down, as we directed in the Deligation after Phlebotomy in the Arm: It is held on a Compress by the Left Thumb; then it is carried twice or thrice circularly like a Stirrup over the Wound and Compress, and from thence obliquely over the *Tarsus* to the Ankle; after this, it passes again obliquely over the Compress, under and round the Foot, and returns once more to the Ankle. Having repeated this, till your Bandage is almost spent, fasten it on the Outside of the *Tibia* (see *Tab. XXIV. Fig. 1. E*). Some begin their Bandage round the Ankle, then carry it obliquely over the *Tarsus* to the Bottom of the Foot, and from thence again to the *Tarsus*, where they make several circular or spiral Turns, which invest the Compress almost in the same manner, as in *Tab. LIX. Fig. 24. A, B*. They fasten the End with a Pin, or rather with a Suture. There are several other Methods; but, as in all of them there is some Resemblance of a Stirrup, this Bandage is call'd *Stapes*.

Bandage for an Amputation of the Leg or Thigh.

It is superfluous to be very exact in the Explanation of Bandages for an Amputation of the Leg or Thigh; for, after suppressing the Blood, the Capeline describ'd above, and represented *Tab. LVIII. Fig. 19.* is proper; except that the Leg and Thigh require a longer Roller than the Arm.

Bandage for a Fracture of the Tibia with a Wound.

After reducing the Fragments, cleansing the Wound, and laying on proper Remedies, the Surgeon's next Care is a convenient Bandage: And there is one peculiarly adapted to a compound Fracture, with eighteen Heads or Leaves, like a Book, (see *Tab. XXX. Fig. 4. B B*) by the Germans call'd a

Book-band. It is inconceivable how commodious this is, as it may be open'd and bound up again, without moving the Limb, while those long ones, used in simple Fractures, would prove very incommodious and hurtful, as they oblige you to agitate it so often. We shall therefore be very exact in our Description of this Bandage.

Previous Disposition of the Bandage.

When a Fracture of the *Tibia* is attended with an external Wound of the Skin, as *Tab. XXX. Fig. 4.* A, after Reduction, cleansing the Wound, and dressing with Lint, and proper Remedies, take the Straw-case, *Fig. 5.* A A, B B; put three or four Pieces of Tape, each a Yard long, under it; then lay as many transversely over it, and upon them the eighteen-headed Bandage, as at *Fig. 4.* B B; and *Tab. LIX. Fig. 25.* C C, D D, E E. Thus you have the whole Apparatus for the Reception of the Leg.

The Application.

In the next Place, while an Assistant holds up the Leg in a convenient Posture, you apply two middle Leaves transversely over the fractur'd Leg and Dressings, first having dipt them in warm Spirit of Wine or *Oxyerate*, (see *Tab. XXX. Fig. 4.* and *Tab. LIX. Fig. 25.*) then the two lower, and then the two upper, of the first Order, not in an exact circular Direction, but somewhat obliquely, and across each other, as at *Tab. LIX. Fig. 25.* c c c, d d d. Proceed then with the Leaves of the following Order in the same manner, beginning with the middle ones, and ending with the uppermost, which must be drawn round the Leg, as at *Fig. 25.*

Application of the Splints and Compresses.

After the Application of this Bandage, you lay two Compresses, of a Foot long, and two or three Fingers broad, folded towards the Ankle, as before directed (see *Tab. XXX. Fig. 13.*) and dipt in warm Spirit of Wine, on each Side of the *Tibia*, to which they must be equal in Length; one must be laid at C C C, *Fig. 25. Tab. LIX.* the other on the opposite Side at D D D; over these you place the six largest Leaves of the last Order E E, F F, G G; then you apply two Compresses, with a Splint of thick Pasteboard, which are tied round the *Tibia* on the Outside, with three Tapes put under it, for that Purpose.

Posture of the Leg after Deligation.

After the Deligation is completed, your next Care ought to be, to dispose the Leg in the most convenient Posture for Rest. The Antients fasten'd a Pillow round the *Tibia*, as appears from the Writings and Figures of *Solignus*, *Purmannus*, and others. But, as this does not seem adapted to retain the Leg firmly, I would advise the Use of the Straw-case. As for what regards the quiet Posture and Support of the Leg, consult what we proposed, where we treated of the Bandage for a fractur'd *Femur*; and see the Representation, *Tab. LIX. Fig. 20.*

Renewal of the Dressings.

As to the Renewal of the Dressings, it may be done daily, or every other Day, according to the Quantity of the Discharge: During the Performance of this, an Assistant must hold the Leg up, that the Fragments may not be disturb'd; and, after cleansing the Wound, proceed as directed above. This must be repeated, till the Wound is entirely heal'd; and, if that happens before the Fragments are well united, you may apply a common Bandage, as in simple Fractures. Lastly, if the Bandage and Dressings are foul, they may be changed, while two Assistants hold the Leg up carefully; but let your clean Band be sew'd at one End, to the End of the foul one, before the Limb is remov'd, that at the same time you take out one, you may gently draw the other into its Place. As to the wooden Case of *SCULTETRUS*, (*Tab. LVI.*) there are two sufficient Objections against it: For, first, it is very troublesome to the Patient; and, next, it is difficult to be procur'd in Camps, where these Fractures are very frequent; otherwise it is no contemptible Machine.

Machines for a fractur'd Tibia, with a lacerated or contused Wound.

As a fractur'd *Tibia*, with a lacerated or contused Wound, requires a more exact Rest than the Straw-case will afford, there is a peculiar Machine contriv'd, which consists of three brass Plates joined together with Hinges, *Tab. XXX. Fig. 9.* these are used with the Foot-board, *Fig. 6, 7, 8.* Yet some prefer the Straw-case. But *PETIT* has contriv'd a curious Machine, not only for this, but all other Fractures, which is accurately describ'd both in the Author's Treatise on Diseases of the Bones, and in the History of the Royal Academy of Sciences at *Paris* for the Year 1718. We have represented it *Tab. XXX. Fig. 11, 12.* and describ'd it in the Explication of that Table.

Treatment of other compound Fractures.

If a Fracture of the Thigh is accompanied with an external Wound, apply the Bandage recommended for the *Tibia*. But both that, and the Straw-case, must be larger; and, though you may conveniently invest a compound Fracture of the Shoulder or Elbow with it, yet there is no Reason, why you should not use the same Deligation, as in simple Fractures; because, as the Bones are pendulous, they may be better secur'd by the common Roller, seeing it often happens, that the eighteen-headed Bandage cannot be apply'd to these Parts with so great Advantage as to the Leg and Thigh.

An Explanation of the Fifty-ninth Plate.

Fig. 1. Represents the Bandage for an Amputation of a cancerous Breast, where A, B, C, D, point out the first Course of the Roller; E E, the Compresses applied to the Breast.

Fig. 2. Shews the Method of applying the T Bandage for Disorders of the Breast; a a, the Part which goes round the Body under the Breasts; b b, the two Heads, which pass over the Shoulders; c, the Part covering the Breast; d, the Neck, contain'd by the Slips b b.

Fig. 3. Denotes the four-headed Bandage for Disorders of the Breasts; a, the entire Part covering the Breast; b b, the two superior; c c, the two inferior Heads; d, the sound Shoulder, where they are tied together.

Fig. 4. Gives a View of the *Quadrige*, where the Letters a, b, c, d, e, f, g, shew the first Turns of the Roller.

Fig. 5. Represents the Bandage for an umbilical Rupture; A, the Compress to prevent a falling out of the Intestines and *Omentum*; B B, the Girdle investing the Body; C, the *Scapulary* which secures the other; d d, the two Leaves of the Bandage which pass between the Thighs, and are fasten'd with Strings at B B, that the Compress may be retain'd securely upon the Navel.

Fig. 6. Denotes the Bandage for the *Inguen*; a a, its transverse Part surrounding the Body; b b, its perpendicular Part going between the Thighs; c, its superior and larger Part, which invests the Groin.

Fig. 7. Shews the same Bandage applied to the Body.

Fig. 8. Gives you a View of the Method of applying the Bandage for Disorders of the *Scrotum*.

Fig. 9. Represents the Bandage itself; a a, the transverse Part; b b, the perpendicular Slit in the Middle; c, the *Foramen* to transmit the *Penis*.

Fig. 10, and 11. Represent the different Forms of the double T Bandage for different Uses.

Fig. 12. Shews the manner of applying the last to the Body for investing the *Scrotum*.

Fig. 13. Exhibits a compound Bandage for the *Scrotum*, called the *Suspensor* (*Gall. la Bourse*); A A, the Part which receives the *Scrotum*, like a Purse; b b b, the transverse Part surrounding the Body; one End whereof a is tied to the other b; C, the Aperture for transmitting the *Penis*; B B, the two Heads which pass betwixt the Thighs, and, being carried round them, are fasten'd by the Holes d d, with the Strings E E.

Fig. 14. Shews the manner of applying the T Bandage, represented by *Fig. 11.* for Disorders of the *Anus*; a a, the transverse Part fasten'd round the Body; b, the entire End of the perpendicular Part, retaining the Dressings on the *Anus*; c c, the Place where it is join'd to the other Part; d d, the two lower Heads carried between the Thighs, and fasten'd at the *Pubes*, or on each *Inguen*, as in *Fig. 12.*

Fig. 15. Represents the double inguinal Bandage for various Uses, especially to prevent profuse Bleedings after Lithotomy, or the Operation for *Fistulas*; a, b, c, d, e, f, g, shew the principal Turns; but the prick'd Lines shew two Directions from a to b, and from g to i, which crossing the *Abdomen*, are reflected under the *Perinaeum*, and over the Shoulders, to compress the Parts more effectually. This I call'd the knotted Bandage for the *Perinaeum*.

Fig. 16. Is the simple inguinal Bandage, which begins at a, and continues its Course by b to c, from thence by d e to c, and again to its Beginning a.

Fig. 17. Denotes a fractur'd Arm A, secur'd with Splints and Compresses a a a, and tied over the Bandage on the Outside of the Arm with three Strings b b b; c c c c is the Sling hung about the Neck, and tied on the sound Shoulder by the Knot d; e e is the Case for a Fracture of the *Cubitus*; but this is needless in a Fracture of the Shoulder or Clavicle.

Fig. 18. Shews the Bandage for a burnt or scalded Hand.

Fig. 19. Represents the Method of binding the Stump of an amputated Hand; a a, the Arm, with Part of the *Cubitus*; a, the Stump and Dressings; b b, the two Ends carried round the Compress in the Direction c; then one of them crosses over the Stump d, the other continues in Circles: Hence termed the Bandage with two reflected Heads.

Fig. 20. Exhibits a Straw-case, and the Method of applying to the Leg; a a, two cylindric Bundles of Straw, with a Stick

in the Middle of each; *bb*, the subjacent Pillow; *C*, the Foot-board; *a, b, c, d*, four Strings, which tie the Whole together on the Outside; *e f*, the two Strings which fasten the Foot-board to the Straw-case; *g*, the uppermost String, fastening the Foot-board a little higher to the outer Cylinder.

Fig. 21. Is a double-headed Roller, whose Ends *aa* are sew'd together; so as to leave an Inch in the middle *b*, where the *Calcaneum* in Fractures may be commodiously placed.

Fig. 22. Exhibits the Bandage for a transverse Fracture of the *Patella*; *a*, the *Patella*; *b*, the Thigh; *c*, the Leg; *d*, the Circles above the *Patella*; *e*, those below.

Fig. 23. A peculiar Bandage for the same Fracture; *A*, the upper and entire Part; *bb*, the two inferior Heads; *cd*, the Part where the Linen is cut out; *C* covers the superior Part of the *Patella*.

Fig. 24. Shews the Deligation for a Fracture, Dislocation, or Phlebotomy of the Foot; *A*, the circular Rounds, above the Ancles; *B*, the spiral and circular Turns about the Tarsus and Metatarsus.

Fig. 25. Teaches the Manner of investing a compound Fracture of the Tibia with the eighteen-headed Bandage; *A*, the Thigh; *B*, the lower Part of the Leg; *CCC, DDD*, the oblique Position of the Leaves across each other, on the Fracture; *E F G*, the six outermost Leaves, to be laid over the Compresses, obliquely, in that Order.

FASCICULUS. An Handful; or, according to others, as much as can be taken up with two Fingers and the Thumb.

FASDIR. Jupiter; that is, Tin. *Rulandus.*

FASTIDIUM CIBORUM. An Aversion to, or Nauseating of, Aliment.

FASTIGIATI Furni, in Chymistry, are Furnaces furnished with several Aludels. *Cassellus.*

FATUITAS. The same as *MOROSIS*; which see.

FAUCES, φάρυγξ. The Space about the Mouths, or Extremities, of the Gula and the Larynx, or the Gullet and the Wind-pipe; which exposes itself to View when the Mouth is open, and the Tongue depressed.

FAUFEL. The same as *ARECA*; which see.

FAVIFORMIS, μέγιστος. Honeycomb-like. An Epithet bestow'd on some putrid Abscesses, or Ulcers, which, being pressed with the Finger, emit a sanious Mucus through a Multiplicity of Perforations, as Honey comes from the Comb.

FAULEX. Steel. *Rulandus.*

FAUNORUM LUDIBRIA IN QUIETE. An Expression in *Pliny, Nat. Hist. Lib. 25. Cap. 4.* by which he means that nocturnal Disorder which we call the *INCUBUS*.

FAVONIUS, ζέφυρος. The West Wind, which is generally cold and humid.

FAUSTINI PASTILLI. Faustine Troches, are of several Sorts: The first is for Dysenteries, and the Coeliac Passion, and is thus prepar'd:

Take of burnt Paper, seven Drams and an half; Quick-lime, six Drams and a Quarter; Arsenic, three Drams; Sandarach, one Dram and an half: Triturate and ferment them with Lentils, and a sufficient Quantity of a Decoction of Myrtle-berries.

Another Preparation of Faustine Troches is as follows:

Take of Quick-lime, two Drams and an half; Sandarach, one Dram and an half; Arsenic, two Drams; burnt Paper, seven Drams and an half: Triturate and ferment them in a Decoction of Myrtle-berries; and then make them into Troches, for Use.

The way of making the Faustine Troches, in *Alexandria*, is thus:

Take of Arsenic, and Sandarach, each two Drams; Quick-lime, seven Drams; Acacia, six Drams: Triturate and work them in Wine; after which, form them into Troches. *Myrsellus, Sect. 4. Cap. 99, 100.*

FAVUS. The same as *CERION*; which see.

FEBRIFUGA, Febrifuges, are such Medicines as mitigate or remove a Fever; they are otherwise call'd *ANTIFEBRILIA*. *Febrifuga* is also a Name for the *CENTAURIUM MINUS*.

The *Febrifugum Concharum Crollii* is much the same as the *Concharum Antifebrile* of *Bates*. See *CONCHA*.

Under the Article *DUODENUM*, I have specified one Method of preparing the celebrated Febrifuge of *Riverius*; but our Countryman, *Bates*, gives the Preparation in a somewhat different manner, thus:

Take of the Flowers of Antimony, thrice sublim'd with Sal Ammoniac, and edulcorated, of Glass of Antimony,

precipitated in four Ounces of Aqua-fortis prepar'd of Nitre and Alum, each half an Ounce; of Mercury, precipitated with Aqua-fortis prepar'd of Nitre, Vitriol, and Alum, six Ounces; of Gold, dissolv'd in Aqua Regia, one Ounce: Mix, and distil gradually to Dryness, from a Retort, using twelve Cohobations. To the Powder, when five times wash'd, and dried, add two Pints of the Alcohol of Wine; and distil from a new Retort, using six Cohobations. Pour out the Alcohol of Wine, and put the Mass of the Calx into a close-stopt Crucible, which is to be placed in a rotatory Fire, for three Hours; then kindle the above-mention'd distill'd Spirit of Wine upon it, according to Art. The Dose is from six Grains to half a Scruple, with an equal Quantity of sulphurated Scammony.

FEBRIS. A Fever. See the Articles *CATHARTICA*, *DEPURATORIA*, *MILIARIS*, and *PYRETOS*.

FECULA. The same as *FÆX*; which see.

FEDUM. Crocus. *Rulandus. Johnson.*

FEGOPYRUM. See *Fagopyrum vulgare scandens*.

FEGOTRITICUM. A Name for the *Fagopyrum vulgare scandens*.

FEL. Gall. See *BILIS*.

FELILECH, Faulis. Iron. *Rulandus.*

FELIS. See *CATUS*.

FELLA. Sulphureous or sulphurated Water. *Rulandus.*

FELLETIN. Plates of Iron. *Johnson.*

FELLIFLUA Passio. A Name in *Cælius Aurelianus, Acut. Morb. Lib. 3. Cap. 19.* for the *Cholera Morbus*.

FEMUR. See *CRUS*.

FENESTRA. A Name for two Foramina, or Openings, within the Ear; one call'd *Fenestra Ovalis*, and the other *Fenestra Rotunda*; for which see *AURIS*.

FERINUS, φερίων properly savage, brutal; but in a medicinal Sense, importing noxious, or malignant. Hence it is applied to Diseases remarkable for their Malignity, as proceeding from an extraordinary Depravation of the Humours. *Galen. Com. in 6 Epid.* On this Account we find it given to Worms, a Cough, a raging Delirium, and Ulcers of a bad kind. 1 *Prorrhetic.* and *Coac.* Patients, also, labouring under such malignant Distempers, are call'd φερίων, *Ferini*, 4 *Epid.* *Ferinus*, φερίων, is, also, an Epithet bestowed by *Hippocrates, Lib. de prisca Medicina*, on such Food as was the Sustainance of Mankind, in the first Ages of the World, being chiefly Acorns, and other Fruits and Roots, which they had in common with the wild Beasts.

FERION. A fictitious spagiric Term, occurring in *Theat. Chym. Vol. 5. p. 159.* but, what it means, is impossible to be learn'd from the Description there given.

FERMENTATIO. Fermentation. See *ALCOHOL* and *ACETUM*.

FERMENTUM. Ferment, Leaven, Barm, Yest. The Ferment most used in *England* is the Spume or Froth of Beer, concreted; and we seldom use any other, where that is to be had: And this Sort of Ferment, *Pliny* tells us, was in Use among the Northern Nations, in former Ages: "In *Spain* and *Gaul*, he says, after they have resolved their Corn into "Drink, the concreted Spume of the Liquor serves them for "Ferment; whence their Bread is lighter than that of other "Nations." *Nat. Hist. Lib. 18. Cap. 7.* This concreted Spume of Beer, then, is, in the Judgment of *Pliny*, a most laudable and wholesome Ferment. See *ALCOHOL*.

FERRAMENTUM. A common Name for all Instruments made of Iron or Steel, particularly in Surgery.

FERRATUS. An Epithet for an Instrument, arm'd, or fortified, with Iron or Steel. Applied, also, to Waters impregnated with Iron; whence *Aqua ferrata* are the same as *ACIDULÆ*.

FERRETUM, Ferreto, that is black or burnt Cyprian Copper; made use of in making Glafs. It is now made in *Spain*.

FERRUGO, ῥίσις, Rust of Iron, is a Restringent: Applied by way of Pessary, it represses the Fluor Uterinus; and, drank, it prevents Conception; it cures the Erysipelas, and exanthematous Eruptions, if it be rubbed on the Parts with Vinegar. It is of good Use in a Paronychia, Roughness of the Eyelids, and a Condyloma; it also strengthens the Gums, relieves under the Gout, being rubbed on the Part affected; and makes the Hair grow after an Alopecia. Wine, or Water, in which red-hot Iron has been quenched, being drank, is good for the Coeliac Passion, Dysentery, Disorders of the Spleen, Cholera Morbus, and Relaxations of the Stomach. *Dioscorides, Lib. 5. Cap. 98.* See *MARS*.

FERRUM, σιδηρον. Iron. See *MARS*.

FERRUM EQUINUM.

The Characters are;

It has a flat Pod, distinguished by lunated Joints, resembling an Half-moon, and full of Seeds of the same Shape.

Barbarea

Boerhaave mentions three Species of this Plant; which are,

1. *Ferrum equinum siliqua singulari*. C. B. 349. M. H. 2. 117. HORSESHOE-VETCH WITH A SINGLE POD.

2. *Ferrum equinum; siliqua multiplici*. C. B. P. 349. M. H. 2. 118. HORSESHOE-VETCH WITH MANY PODS.

3. *Ferrum equinum; Germanicum; siliquis in summitate*. C. B. P. 349. *Raii Hist.* 1. 930. *Synop.* 3. 325. *Ger. Emac.* 1236. *Tourn. Inst.* 400. *Elem. Bot.* 319. *Boerb. Ind. A.* 2. 52. *Ferrum Equinum*. Offic. *Ferrum equinum siliquis in summitate*. *Merc. Bot.* 1. 35. *Phyt. Brit.* 40. *Ferrum equinum siliquis in summitate multiplicibus Germanicum*. *Buxb.* 109. *Ferrum equinum comosum*. *Park. Theat.* 1091. *Rupp. Flor. Jen.* 215. *Mer. Pin.* 38. *Rivin. Irr. Tetr.* *Ferrum Equinum capitatum, vel comosum*. *Col. Ecphra.* 1. 301. *Hist. Oxon.* 2. 118. *Solea equina & Ornithopodio affinis Herba*. *Chab.* 155. *Ornithopodio affinis, vel potius Solea, aut Ferro Equino Herba*. *J. B.* 2. 348. TUFTED HORSESHOE-VETCH.

It grows in chalky Grounds in several Places, and flowers in June. The Herb is in Use, which is an Astringent, and stops Bleeding. *Dale*.

FERSÆ. A Name for the MORBILLI, or Measles. *Castellus*.

FERU. Tin. *Rulandus*. *Johnson*.

FERULA, *νάρδα*.

The Characters are;

It has a large, succulent, and milky Root; the Stalks are fungous, full of Pitch, and disposed to take Fire. The Seeds are very large, oval, and thin; they throw off their Involucrum, and, for the most part, turn black, when ripe.

Boerhaave mentions thirteen Species of this Plant; which are,

1. *Ferula; durior; seu rigidis & brevissimis foliis*. *Barrel.* *Id.* 77. *Obs.* 61. *Pag.* No. 638. *Boccon. Mus.* 2. 84. *Tab.* 76.

2. *Ferula; major; seu foemina Plinii*. *Boerb. Ind. A.* 64. *Ferula*. Offic. *Ger.* 898. *Emac.* 1056. *Ferula tenuiore folio*. *Park. Theat.* 875. *Ferula major, seu foemina*. *Mor. Umb.* 35. *Ferula foemina Plinii*. C. B. Pin. 148. *Tourn. Inst.* 321. *Elem. Bot.* 271. *Ferula tenuiore folio, seu foemina Plinii*. *Hist. Oxon.* 3. 309. *Ferula folio fœniculi, semine latiore & rotundiore*. *J. B.* 3. 43. *Chab.* 388. *Raii Hist.* 1. 420. FENNEL-GIANT.

It is sometimes cultivated in the Gardens of Botanists, and flowers in July. The Parts in Use are the medullary Substance of the Stalks, the Seed, and the Juice or Gum, which is the Sagapenum of the Shops. *Dale*. See SAGAPENUM.

The Medulla, or Pith, of the green Ferula, being drank, is good for Spitting of Blood, and the Cœliac Passion. It is prescribed in Wine, for the Bite of the Viper; and, intruded into the Nostrils, stops Bleeding at the Nose. The Seed, drank, relieves under the Gripes; and, used in Unction with Oil, provokes Sweat. The Stalks, taken as Food, cause Head-ach; they are usually pickled. The Ferula often produces a Stalk three Cubits long; its Leaves resemble those of Fennel, but are much larger and thicker. The Sagapenum distills from the Stalk, wounded near the Root. *Dioscorides, Lib.* 3. *Cap.* 91.

3. *Ferula; glauco folio; semine lato, oblongo; quibusdam Thapsia ferulacea*. *J. B.* 3. 45. *Chab.* 388. *Raii Hist.* 1. 420. *Tourn. Inst.* 321. *Boerb. Ind. A.* 64. *Libanotis altera*. Offic. *Libanotis fœniculi folio, semine foliaceo*. C. B. Pin. 158. *Panax asclepium anguillariæ & Camerarii*. *Park. Theat.* 883. CANDY ALL-HEAL.

It grows in the Island of Candy, and flowers in Summer. The Parts in Use are the Root, Herb, and Seed.

The Herb, bruised and applied, stops the Bleeding of the Hæmorrhoids, mitigates Inflammations of the Parts about the Anus, and Condylomas. The Roots, dried, cleanse Ulcers, and provoke Urine, and the Menstrues; the Seed, drank, has the same Effects. *Dale* from *Dioscorides*.

4. *Ferula; galbanifera*. *J. B.* 3. 52. *Lob. Icon.* 779. *Tourn. Inst.* 321. *Elem. Bot.* 271. *Boerb. Ind. A.* 64. *Till. Hort. Pis.* 60. *Chab.* 388. *Ferula latiore folio*. *Park. Theat.* 875. *Hist. Oxon.* 3. 309. *Ferula altera*. *Ger.* 899. *Ferulago*. *Ger. Emac.* 1056. *Ferulago latiore folio*. C. B. Pin. 148. *Commel. Plant. usu.* SMALL FENNEL-GIANT.

It grows in the Gardens of Botanists. *Lobel* says, it was produced from Seed found at *Antwerp*, in the Tears of the Galbanum. *Dale*.

5. *Ferula; Africana; galbanifera; folio & facie ligustici*. *Par. Bat.* 163. *Raii Hist.* 3. 252. *Boerb. Ind. A.* 65. *Till. Hort. Pis.* 61. *Galbanifera Planta*. Offic. *Ferula fruticosa sempervirens, foliis Anisi, Galbanifera, ex qua Galbanum Officinarium*. *Parad. Bat. Prod.* 334. *Pluk. Almag.* 144. *Anisum Africanum frutescens, folio & caule vere cæruleo tinetis*. *Pluk. Phytog.* 12. f. 2. *Anisum fruticosum Africanum Galbaniferum*. *Hist. Oxon.* 3. 297. *Oreoselinum Africanum Galbaniferum frutescens Anisi folio*. *Tourn. Inst.* 319. *Oreoselinum Anisoides arborescens Ligustici foliis & facie flore luteo Capitibus Bonæ Spei*. *Breyn. Prod.* 2. 79. THE GALBANUM-PLANT.

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The Stalks are three or four Cubits high, and an Inch thick; they are not annual, like those of the rest of the *Ferulæ*, but perennial, ligneous, smooth, cover'd with a glaucous Dew, as are the Leaves, geniculated, and divided into Branches, on the Tops of which grow small yellow Flowers like those of the *Ferula*, and conglobated into the Form of an Umbella; these are succeeded by oblong, flatish, striated Seeds, of a dark-red Colour, and inclosed within a thin membranaceous Involucrum: They resemble the Seeds of Lovage, in every respect; only they are not so deeply furrow'd, and are, besides, furnish'd with a membranaceous Margin. The Leaves are equal to those of Lovage, but stiffer, and of a more lively green, having the Edges of their Lobes cut, or jagged, like those of Anise. The Root is thick, ligneous, pale, branched, of an acrid, aromatic Taste; being wounded, it yields a Milk, but diluted, and little in Quantity, and concreting into a Tear, in all respects answering to the Galbanum; and this Liquor, sometimes, distills spontaneously from the Joints of the Stalks, when of three or four Years Growth. It is an Ever-green, and is preserved with no great Trouble in Stoves, with us, during the Winter. For the Virtues, see GALBANUM.

6. *Ferula; Tingitana; folio latissimo, lucido*. *H. Edinb.* Broad-leav'd shining FENNEL-GIANT, from Tangier.

7. *Ferula; Tingitana; lucida; folio angusto*. *H. L.* Narrow-leav'd FENNEL-GIANT, from Tangier.

8. *Ferula; foliis capillaceis, erectis, cachrys; semine glauco*.

9. *Ferula; Africana; galbanifera frutescens, folio Myrrhidis*. C. Comm. *Hort. Amst.* 2. p. 115. *Till. Hort. Pis.* 60. ANOTHER GALBANUM-PLANT. *Dale*.

This last, with the fifth Species, as *D. Commeline* writes; being wounded, yields a lacteous Juice, which concretes into a Tear, in all respects like GALBANUM, which see.

10. *Ferula; foliis libanotidis brevioribus; Alpestris; umbella amplissima*.

11. *Ferula; Alpestris; foliis scselios Massiliensis. Libanotis, Alpestris, minor, foliis scseli Massiliensis*. *H. Maur.*

12. *Ferula; quæ Libanotis; folio fœniculaceo; semine folioso*. C. B. P. 158.

13. *Ferula; minor; ad singulos nodos umbellifera*. *Tourn. Inst.* 321. *Boerb. Ind. A.* 65. *Panax Asclepium*. Offic. *Mor. Umb.* 33. *Panax Asclepium Ferulæ facie*. *Ger. Emac.* 1057. *Libanotis Ferulæ folio & semine*. C. B. Pin. 158. *Libanotis quibusdam, flore luteo, semine Ferulæ*. *J. B.* 3. 41. *Chab.* 386. *Raii Hist.* 1. 421. *Libanotis Ferulæ folio & semine, sive Panax Asclepium Ferulæ facie Lobelii*. *Park. Theat.* 881. *Ferula minor*. *Elem. Bot.* 271. THE ALL-HEAL OF ESCULAPIUS.

Its Leaf is nearly of the Size of the Leaf of the *Ferula*, but more finely divided, stiffer, and of no unpleasant Smell. They grow on Pedicles which are solid, and not at all fungous. The Stalk is tall, ramous, and striated; the Flowers small, yellow, and disposed in an Umbella; the Seed loosely scattered over the Umbella, foliaceous like that of the *Ferula*, long, double, whitish, especially what is foliaceous in it, striated, remarkably bitter, and, as it were, resinous: The Stalk and Root, in Size and Shape, resemble those of Dill. *Raii Hist. Plant.*

It grows in *Istria*, and flowers in Summer; the Flowers and Seed are used in Medicine, and, if bruised and applied with Honey, are effectual against phagedenic and other Ulcers, and Tubercles; being drank in Wine, they are good for the Bites of Serpents. *Dale* from *Dioscorides*.

FERULANA. *Boerhaave*. A Name for the *Ferula, foliis Libanotidis brevioribus; Alpestris; umbella amplissima*.

FERULACEA *Raii*. A Name for the *Ferula Galbanifera*.

PESTUCA. See *RECIPIES*.

PIATOLA. A Sea-fish, so call'd at *Rome*, where it is very common. It is broad, flat, and almost round, with Scales of the Colour of Gold and Silver; it has much of the human Shape, and is very good to eat, but not used in Medicine. *Lemery des Drogues*.

FIBER. See *CASTOR*.

FIBRA. A Fibre. *Boerhaave* takes a most excellent Method in treating Diseases of the human Body. He begins with those of the most simple and uncompounded Parts, and thence proceeds to those of the more compounded. The first thing he treats of is a simple Animal Fibre; and the Diseases it is subject to, as such.

Those Parts, which being secreted from the Fluids contained in the Vessels, and, by the vital Powers, together with a highly fine aqueous, or pinguous Glue, mutually applied and united to each other, constitute the smallest Fibre, are themselves highly minute, simple, terrestrial, and scarce capable of undergoing a Change, by the Causes which subsist in an human Body, whilst alive.

F I B

The most simple Fibre consists of Parts still more minute, longitudinally applied to each other; and these constituent Parts of a Fibre, which can no longer be divided into Parts still more small and minute, are called the Elements, or first Principles, of the Fibres. Now *Galen, de Hippocratis & Platon. Placit. Lib. 8. Cap. 2.* informs us, "that the Element of any thing is the smallest and most minute Part of that thing, whose Element it is." The smallest Fibre is that which consists of two of these Elements, longitudinally applied to each other; since one such Element, consider'd by itself, and abstractedly, does not constitute a Solid, but is a Part of the Fluids; so that a Combination of these Elements, or first Principles, constitutes what we call a Fibre.

As for the Method in which the Fibres are form'd and produced, it is certain, that an Adult, weighing two hundred Pounds, lay originally conceal'd in the seminal Matter of his Father; that, from so small a Molecule, he gradually increas'd to so large a Weight; and that this Increase of the solid Parts was produced by the Fluids. This is confirm'd by the Experiments of *Malpighi*, made on an incubated Egg; and which were before tried by *Hippocrates*, as we find in his Book *de Natura Pueri*, where we are told, that, by an Attenuation of the White of an Egg, by means of Incubation, a Chick, with firm Solids, was, in twenty-one Days, produc'd from an invincible Molecule.

But this White of the Egg must have been farther attenuated and elaborated, by means of the Organs of the Chick, before it could have possibly pass'd through those Vessels, which are so small as not to be subjected to our Senses.

The Elements, however, of the solid Parts were contain'd in this highly subtle Fluid.

Hence we may justly conclude, that the Parts, which constitute a solid Fibre, are, themselves, extremely small and minute.

These Parts are, also, of a highly simple and uncompounded Nature; since, according to the Definition already given, from *Galen*, they could not be call'd Elements, if any thing of a more simple Nature could be conceiv'd.

These Parts are, also, of a terrestrial Quality. It may, perhaps, at first appear presumptuous thus positively to determine and ascertain the particular Nature of those Corpuscles, which constitute a Fibre. But we call that a terrestrial Substance, which can neither be dissolv'd by Water, nor fus'd by Fire, but remains invariably fix'd. Now the solid Parts of Animals, when subjected to a chymical Analysis, yield Remains of this Kind, absolutely destitute of every volatile Principle. This is, also, confirm'd by Putrefaction, which separates Earth from all other Principles; for, upon viewing an human Body, which has lay buried in the Earth for several Years, unless it become dry and indurated, which sometimes happens, all the Parts are found to retain their former Figure, so that the Person's Face may be known, from the Resemblance it bears to his Countenance, when alive; but, upon the smallest Concussion, the Parts collapse, and a small Quantity of subtle Earth is found to cover the Bones, which, for the most part, are, as yet, sufficiently firm; these very Bones, when, for a considerable time, expos'd to the open Air, or calcin'd in an open Fire, are found, after an Expulsion of all other Principles, to consist purely of Earth.

In the last Place, these Elements, or minute constituent Parts of a Fibre are scarce capable of undergoing any Change. When Essay-masters, by an highly intense Degree of Fire, try their Metals fus'd with Lead, the best Copels they can use are those which, like a Sieve, suffer the Lead to pass through them, but retain the more precious Metal. Now, it is by no means probable, that, since the Parts of these Metals remain unchang'd by so brisk a Degree of Fire, the Elements, or component Parts, of Fibres should undergo a Change by the Action of Causes subsisting in the human Body whilst alive. These Elements, or component Parts, may cohere, and have that Cohesion again destroy'd, but they remain immutable and unchangeable in every other respect.

It may, possibly, appear surprising, that an Earth of so fix'd and indissoluble a Nature should be lodg'd in the most fine and subtle Fluids; But of the Truth of this we are sufficiently convinced by Chymistry; for the saline, alkaline, and highly transparent Spirits, obtain'd from animal Substances by Fire, contain an Earth. The purest Oils, also, distil'd from the Parts of Animals, contain an Earth, after repeated Distillations, till, at last, being entirely freed from the Earth they contain, they become volatile, and are evaporated in the Air; for the Earth seems to give a fix'd Nature to the other Principles of these Oils.

But as the solid Fibres of the human Body consist of these terrestrial Elements, 'tis necessary they should cohere with each other. This Cohesion is produc'd by the vital Powers applying to the already form'd Fibres, fresh or additional Elements, in order to supply the Places of those before lost; and this is what we call Nutrition. Tho', in considering various Phenomena, we are frequently ignorant of the particular Manner in which they are produc'd, 'tis yet probable, that this Cohesion

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of the Elements of Fibres is owing to the Interposition of an aqueous or pinguious Glue; for Water is possess'd of an incredible Power of uniting and cementing Bodies. The Calx of burnt Alabaster, which may be scatter'd by blowing upon it, by the Addition of Water becomes a ductile Paste, which, being soon concreted into a stony Hardness, is call'd Plaster of *Paris*. Sea-shells, burnt to a Calx, afford an highly fine Powder, which, by its light and volatile Nature, often proves hurtful to the Lungs. This Powder, when mix'd with Water, yields a Paste, which by means of Fire is converted into the hardest Stone. Besides, in the hardest Parts of Animals, where no one would suspect there was any Water, a large Quantity of that Fluid is found; for when the driest Ivory, or Hartshorn, which have lain in the Shops for many Years, are distil'd from Glass Retorts, the greater Part of them becomes volatile, and passes into the Receiver: Thus a great Quantity of Water is obtain'd, whilst what remains in the Retort is friable. Perhaps the judicious *Plomer* had this Doctrine in his Eye, whilst, at the time the *Greeks* stood mute, when *Hector* challeng'd their Army to a single Combat, he makes the enrag'd *Menelaus* with their Annihilation in the following Words:

Ἄλλ' ὁμοῖς μὲν πάντες ὕδωρ καὶ γαῖα γένοισθε.

May all of you be transform'd to Earth and Water.

That a pinguious Glue also makes earthy Parts cohere, is sufficiently evident from chymical Experiments; for so long as this oleous Matter, which can only be separated by the Force of Fire acting in an open Air, adheres to the Parts of Animals, these Parts cohere; but when this pinguious Matter is expel'd, they become Ashes. Bones calcin'd to the highest State of Friability, when immers'd in Oil, become again coherent.

For this Reason, in these most simple Elements, consider'd abstractedly and in themselves, there is no Disease hitherto observ'd, or said to be cur'd by Physicians.

When the most minute Elements, from the Union of which the most simple Fibre is produc'd, are consider'd separately and apart, we can affirm nothing positive concerning them; and they who, indulging themselves in subtle Speculations, have attempted to investigate their Disorders, have said nothing of any real Use to Mankind and Medicine. 'Tis easy to conceive, that they may be transpos'd, and have their mutual Cohesion destroy'd; but that the Elements, or first Principles, of Bodies are absolutely immutable, is confirm'd by the whole Frame of Nature, for six thousand Years past.

For these most minute Elements of the solid Parts are either to be consider'd, whilst, being lodg'd in the Fluids, they are carried through the Vessels; but, in this State, their Disorders, tho' known, would be only Disorders of the Fluids: Or they are to be consider'd as united, and constituting a solid Part; and, in this Case, they are no longer Elements, but a Solid, compounded and made up of these.

But in the smallest Fibre form'd by the Union of these Elements, the following highly simple Diseases deserve our careful Attention, since they frequently occur; and, tho' overlook'd, or little adverted to, yet lay a Foundation for understanding the Nature and Causes of others.

The most simple Diseases are not, therefore, to be sought for in the Disorders of the Elements, which perhaps will remain eternally in the Dark, but in the smallest Fibre, form'd by the Union and Conjunction of these; for when only two Elements cohere with each other, their unnatural Cohesion is capable of producing a Disease; for 'twill be sufficiently evident from what follows, that either too strong, or too weak, a Cohesion in the simple solid Fibres, and the Vessels and Viscera form'd of them, may give Birth to an infinite Number of Disorders.

But these Disorders have been almost entirely overlook'd and neglected; for the *Methodics*, to whom the Doctrine of Stricture and Relaxation is ascrib'd, have not treated of these most simple Diseases, since, according to *Celsus*, in the Preface to his first Book, "They thought it sufficient to inquire into the common Nature of Diseases, of which they established three Kinds; one arising from Stricture, another from Relaxation, and a third of a mix'd Nature; since the Excretions of Patients were sometimes too scanty, and at other times too copious; sometimes, also, too small in one particular Part, whilst they were too large in another."

Diseases of a Fibre from Laxity.

The most minute and simple Fibre is said to be weak, when the Union of its most minute Parts, and their Tendency to Cohesion, are so small, that they may be separated by that gentle Motion produc'd in a State of Health, or, at least, by a Motion not much greater.

From

From whatever Cause the mutual Cohesion of the Elements, which constitute a Fibre, proceed, 'tis no hard Task to conceive, that the Power or Force, by which they cohere, may be either augmented or diminish'd. Our Vessels, which are compos'd of Fibres, must be capable of yielding to the Impulses of a Fluid, and of being distended, but not too much: The Cohesion also of these Vessels ought to remain without a Rupture: Hence a fix'd and determin'd Degree of Cohesion is requisite in our Fibres; and either a Defect or Excess in this Cohesion will produce a Disease.

The Weakness of a Fibre can, therefore, only be defin'd in a relative Sense: For some Weeks immediately after Conception, the Rudiments of the Fœtus become liquid when touch'd, and, unless they were sustain'd by the equable Pressure of a circumambient Fluid, would fall into a small mucous Mass, entirely void of Shape and Form. During this State, so small a Cohesion of the Fibres is requisite, but a far stronger Degree of Cohesion is necessary in the Fibres of Adults.

Different Degrees of Cohesion are, also, requisite in different Parts of one and the same Person: Thus the Cohesion of the minutest Solids, which constitute the soft Pulp of the auditory Nerve, seem to be far less than the Cohesion of those which constitute that hard Tendon which receives its Denomination from *Achilles*.

Hence a solid Fibre is said to be too weak, when its Cohesion is not so strong as to sustain that Motion, which, in a State of Health, is requisite for the due Performance of the animal Functions.

Nor is this sufficient; for the Fibres ought always to be capable of sustaining a somewhat greater Force; for if the Cohesion of these most minute solid Parts was only able to bear a gentle Motion of the Fluids thro' the Vessels in a State of Health, and no more, it would be immediately destroy'd, when, in consequence of an increas'd Circulation, the Fluids were carried thro' the Vessels with a greater Force. Now the Velocity of the Circulation is increas'd by the slightest Causes, and such as can neither be foreseen, nor prevented, by human Sagacity: Thus, upon the Hearing of a sudden Noise, the Palpitations of the Heart, and the Strokes of the Pulse, become preternaturally quick: Laughing, Coughing, and Sneezing, also, considerably accelerate the Circulation of the Blood.

In certain Diseases it sometimes appears, how miserable the Condition of the Patient is, whose solid Fibres are so weak, that they are only capable of sustaining an highly mild and gentle Motion.

Those who, having weak Lungs, spit Blood in consequence of the Rupture of an Artery, live pretty comfortably, if they remain in a State of Rest, if, by Venesection, the Quantity of the Blood distending the Vessels is lessen'd, and if they use no Aliments of a stimulating and irritating Nature: But if they are seiz'd with a violent Cough, cry aloud, or are agitated by the Workings of some tempestuous Passion, the tender Vessels of the Lungs, in consequence of the Impetus of the Blood carried thro' them, being enlarg'd, are broken, and so violent an Effusion of Blood is often brought on, as suddenly to destroy the Patient.

This Debility or Weakness of the most simple and minute Fibres is caus'd, first, by an obstructed Assimilation of the Aliments to the Nature of the sound vital Juices, which is owing to an excessive Loss of the laudable Humours, and the Want of a due Action of the Solids upon the Liquids: Or the Aliments themselves are of too tenacious a Nature to be chang'd by the Powers appointed for that Purpose. Secondly, this Weakness of the Fibres is caus'd by the too faint and languid Application of one Part to another, which arises from a too weak Motion of the Fluids, which again is for the most part produc'd by a Defect of muscular Motion. Thirdly, this Weakness of the Fibres may be produc'd by such a preternatural Distraction of them, as almost amounts to a Rupture.

'Tis most certain, that we consist, and are made up, of those Parts, by which we are nourished. But the Matter which nourishes is prepar'd, so that it may acquire a nutritive Quality in the Body. Hence Aliments alone are not sufficient for Nutrition; but the Soundness and Perfection of the natural Actions are requisite, to assimilate the Aliments to the natural Juices, and restore what has been exhausted, by whatever Cause. When Physicians prescribe the best and most laudable Aliments for highly phthical and consumptive Patients, they are surpris'd to find no happy Effects produc'd by them; but, in these Persons, this assimilating Power, without which there can be no Nutrition, is wanting. *Galen*, therefore, *de Ratione Vitæ in Acutis*, justly condemns those Physicians, who do not advert to this Circumstance, in the following Words: "Tho' these Physicians assume the Name of Methodics, yet they are in reality Strangers to all Method [*ἀμεθόδοι*], since they exhibit Wine and Flesh, pouring, as it were, Nourishment into an unanimated Vessel [*ὡς ἀψυχὸν ἀγγεῖον*]."

This Obstruction of the Assimilation of the Aliments to the

Nature of the sound vital Juices is owing to too great a Loss of the laudable Humours. If we consider what happens to the crude Aliments before they are converted into our Humours, we perceive that an incredible Quantity of the human Fluids is mix'd with them: Thus, in Mastication, the Saliva and Mucus of the Mouth, Tongue, Palate, and Fauces, are mixt with them; in the Stomach, the gastric Juice is mixt with them; and, when they pass from thence, they are mixt with the cystic and hepatic Biles, as also with a large Quantity of the pancreatic Juice. Besides, in every Part of the Intestines they are mixt with additional Juices, previously elaborated by the curious Structure of the Body. The Chyle, when receiv'd into the minute lacteal Vessels, is diluted by a large Quantity of Lymph. In the thoracic Duct it is mixt with the Lymph, returning almost from all the Parts of the Body: At last, falling Drop by Drop from the thoracic Duct into the subclavian Vein, it is absorb'd and carry'd off by the common Torrent of the Blood: Hence we may justly conclude, that the due Mixture of a small Quantity of crude Aliments, with so large a Quantity of concocted Humours, is one of the most considerable Causes of this Assimilation, so necessary to Nutrition.

This is sufficiently confirm'd by Experience; since in the most robust and hardy Soldiers, who by Wounds have lost almost the Whole of their Blood, the Aliments, tho' devour'd with a keen Appetite, are not digested and converted to a laudable Blood; but the Patients become dropsical, and the whole Frame of their Bodies weaken'd. Thus, also, an insupportable Languor remains for a long time with Women, who, in consequence of Miscarriages, have lost large Quantities of Blood: All other Evacuations, whether by Stool, Urine, or Sweat, when excessive, produce the same Effect.

This Assimilation is, also, obstructed by the Want of a due Action of the Solids upon the Fluids. When the Chyle just convey'd to the Mass of Blood, has for some little time been acted upon by the pulmonary, and all the other Arteries of the Body, it partakes of the Nature of Milk, and approaches nearer to our Nature than crude Chyle; and, after some time, it is converted into Serum, losing its white Colour, as *Lower* observes. But all this while it is subjected to the Action of the Vessels upon the Fluids, which is no more than that Effort by which our Vessels repress the Fluids which distend them: The firmer, therefore, these Vessels are, provided they are not too rigid for yielding to the Impulses of the Fluids, the more powerfully they act, and, consequently, the Assimilation of the Aliments to the sound and vital Juices is the sooner and the better carried on.

A weak and languid Girl, labouring under a *Chlorosis*, takes her Aliments, which, however, do not produce a laudable Blood, but only a kind of Milk, as it were. Hence her whole Body becomes pale, and, when a Vein was unskillfully open'd in a Case of this Nature, I myself saw white Blood discharg'd. If in Patients of this Kind the digestive Powers are somewhat stronger, the Aliments are proportionably more chang'd, but not totally perfected. In this Case, a yellowish or greenish Colour is produc'd; for in these a due Action of the Solids upon the Fluids is wanting, in consequence of which, the Patients are render'd tumid, and full of Crudities; but a laudable Nutrition is not, at the same time, carried on.

But if, by means of chalybeate Preparations, and due Exercise, the Action of such a Patient's Solids upon her Fluids should be increas'd, her tumid Face begins to subside, a rosy grateful Colour adorns her Cheeks and Lips, and a due Vigour is restor'd to all the Parts of her Body.

The Aliments themselves may be of so tenacious a Nature, that they cannot be chang'd by the several Powers appointed for that Purpose. The due Mixture of a large Quantity of concocted Humours with a small Quantity of crude Aliments, and the Action of the Solids upon the Fluids, are the two Causes concurring to transform and convert the crude Aliments into the Substance of the human Body. But tho' these Actions are so powerful, that, from so many and so various Aliments, they at last produce the human Blood, yet 'tis requisite the Aliments themselves should be of such a Nature as to be capable of being chang'd by the Powers appointed for that Purpose; for, according to *Galen*, in his Commentaries on the Epidemics of *Hippocrates*, "Concoction is a certain Conveyance of that which is concocted into the Substance [*ἰσμία*] of the Person by whose Powers it is concocted: "When, therefore, the Body is in a natural State, and when the Substance to be concocted is suited to the Person by whose Powers it is to be concocted, the Whole, or, at least, the greater Part, of the Substance to be concocted is chang'd, so that a very small Quantity of it remains half concocted."

When, in besieged Towns, a Scarcity of Provisions forces the Inhabitants to devour every thing which comes in their way, they all become highly weak and languid: And *Dodonæus*, in his *Stirp. historia*, informs us, "That when the Inhabitants of *Middelburg* in *Zeland*, for want of other Provisions, eat Bread prepared of Lent-seed, their Hypochondria were

"soon

“ soon distended, their Faces and other Parts render’d tumid, “ and many of them destroy’d.” In this Case, the strong Glue of the Linseed could not be converted into a laudable Nourishment.

When Girls of a deprav’d Appetite eat Sand, Lime, Wool, and several other unaccountable Substances, they become weak and pale. The tenacious Nature, therefore, of the Aliments ought to be duly proportion’d to the assimilating Powers; otherwise the Body is so far from being recruited, that it is rather oppress’d by them. When the common People stuff their Children with Gruels prepar’d of unfermented farinaceous Substances, or with Potatoes, the poor Infants have their Abdomens render’d immensely tumid, whilst the other Parts of their Bodies decrease.

Hippocrates, well apprised of these things, in the eighth Aphorism of his first Section, orders, that, when a Disease is at its Height, the Patient should use highly light and fine Aliments; since Nature, being at this time oppress’d with the Force of the Disease, is of course unfit for changing strong Aliments: And from this Position he afterwards deduc’d many excellent and salutary Rules with respect to the dietetic Part of Medicine.

In those Diseases in which the Circulation of the Fluids is languid, the Aliments are of no Service. Patients of this Class may be stuff’d till they become tumid, oppress’d, or even almost suffocated, but they can never be duly nourish’d, as we observe in dropical Persons.

A diminish’d Velocity in the Circulation of the Fluids is the principal Cause why there is not a due Application of the Elements to the Fibre to be nourish’d.

The Source and Spring of the vital Motion seems to be lodg’d in the Heart. By this Motion driving the Blood out of the Ventricle of the Heart, all the Arteries are dilated, and, being afterwards contracted, by that means continue the Motion of the impel’d Blood.

Among the various Causes producing the Motion of the Heart, the principal is, perhaps, the Influx of the venous Blood into its Cavities; for long after Death, when the venous Blood is protruded to its Right Ventricle, the Motion of the Heart returns, as is certain from various Experiments. Now the Muscles becoming turgid when they act, compress the adjacent Veins in such a manner, as to accelerate the Motion of the venous Blood to the Heart; which, being stimulated by this means, is more quickly contracted. Hence the Circulation of the Blood is render’d quicker.

This is sufficiently confirm’d by Experience; since there is a great Difference between the Strength of two Brothers sprung from the same Parents: If one of them leads a studious and sedentary Life, whilst the other accustoms himself to Hunting, Riding, and the more hardy Exercises; the former is weak, like a Girl, and enjoys but a frail State of Health; whilst the latter, by Exercise, acquires an almost Herculean Strength.

When an Horse daily accustom’d to Running, is suffer’d to rest in the Stable, he soon becomes fat and plump; but at the same time he is render’d far weaker, and entirely unfit for his usual Labours. Hippocrates, in the second Book of his Treatise de Ratione Victus, informs us, that Ease moistens the Body, and renders it weaker, whereas Exercise dries and renders it stronger.

Nothing more evinces the Impossibility of explaining the Nature of particular Bodies by mechanical Principles, than Cohesion, that surprising Property of Bodies: The Parts of Iron cohere with each other: This Iron is drawn out into fine Wire for some musical Instruments: Upon twisting about the Key, this Wire is render’d longer, and more slender, whilst fewer of its Particles come into mutual Contact with each other. At last the Wire, when further drawn, breaks; and the Extremities of the Part, where the Rupture happens, tho’ mutually apply’d to each other, will yet never again cohere: Hence Cohesion may be gradually so diminish’d, as at last to become none at all; and about the Moment the Rupture happens, the Parts scarce cohere any longer; or, at least if they do, ’tis in such a manner, that the Rupture may be produced by the slightest Accident. This holds equally true in the solid Fibres of our Bodies.

When Criminals are rack’d, in order to extort a Confession, after they are suspended, ’tis customary to fix to their great Toes Weights, which are gradually increas’d; and they who have been rack’d in this manner, can scarce move their Members for some Days, since they are render’d, as it were, paralytic, by no other Cause than the Violence of the Distention.

’Tis perhaps possible, that the Bladder may be so distended by a too long Retention of the Urine, as totally to lose the Power of contracting itself for the future. In pregnant Women the Skin and Membra Adiposa are so distended, as after Delivery to remain flaccid and corrugated during all their Lives.

This Weakness of the Fibres produces an easy Distention and Rupture of the Vessels compos’d and made up of them, together with their too faint Action upon their contain’d

Fluids. Hence arise Tumors from the distending, and Putrefactions from the stagnating or extravasated, Fluids, together with all the Train of Calamities subsequent to these two Misfortunes.

This is sufficiently obvious, if we suppose, that a perfectly sound human Body should suddenly have all its solid Fibres render’d too weak; for all our Vessels consist of Fibres mutually join’d and interwoven with each other: Hence the Strength of all the Vessels depends upon the Strength of the Fibres; but the greater or smaller Capacity of each Vessel is in a Ratio, compounded of the direct Ratio of the Impetus of the impel’d Fluid, and the inverse Ratio of the Resistance made by the Sides of the Vessel. Since, therefore, when the Fibres constituting the Sides of the Vessels are weaken’d, the Resistance of these Sides must be impair’d; it follows of course, that the Impetus of the impel’d Fluid remaining the same, the Vessels must necessarily be distended.

When, for Instance, any Part of the Body is long expos’d to the Steam of tepid Water, than which nothing more effectually weakens the Part thus expos’d, it will soon after become tumid, and cedematous.

Whilst the same Cause continues to weaken the Fibres, upon the Application of the smallest Force the Cohesion will be destroy’d, and a Rupture produc’d; of which we find many mournful Instances, since tender Men by coughing, singing, and bawling aloud, have often had an Artery in their Lungs ruptur’d.

The Weakness of the Fibres produces too faint an Action of the Vessels upon their contain’d Fluids. When the Arteries are distended by an impel’d Fluid, they, by the Energy of their constituent Fibres, repress this Fluid. Whilst the Fibres endeavour to lessen the Cavity of the Vessel they compose, they compress and change the contain’d Fluids. Upon these two depend all the Functions of the Body. Thus, when the Strength of the Fibres is impair’d, ’tis sufficiently obvious, that the Vessels compos’d of these must act less powerfully upon their contain’d Fluids.

Tumors from the distending Fluids must consequently be produc’d: This is confirm’d by Experience; for, when a tender Girl begins to be weaken’d by a Chlorosis, those loose Parts under the Eyelids, call’d by the antient Greeks *ὕαπαια* and *ὕπερδάλμια*, begin forthwith to swell; then the whole Face appears somewhat turgid and white; and whilst the Load of Humours to be mov’d daily increases, without a proportionable Increase of the moving Cause, she begins to have almost all the Parts of her Body render’d tumid. Thus, also, in the Beginning of a leucophlegmatic Cachoymia, Men often rejoice, whilst they falsely imagine, that they are in good Health, and becoming fat. When the Atmosphere continues foggy for a considerable Number of Days, our Bodies appear inflated, because their external Parts are plac’d, as it were, in a continual Bath: Hence they are weaken’d by the distending Fluids.

As to Putrefactions from the stagnated or extravasated Fluids; so long as the Humours are by an equable Motion carried thro’ the Vessels, no Putrefaction arises in the Body, since every thing which begins to have a Tendency to Putrefaction, is eliminated through the usual Emundories of the Body: But when the weaken’d Solids cannot sufficiently propel the distending Fluids, a Stagnation ensues: And in the Heat of the common Air, all the Fluids of the human Body, those of a pin-guious Nature excepted, if left to themselves, become putrid, except Milk, which is not possess’d of all the Qualities of the Fluids of the human Body. This Accident must much more happen in our Bodies, the Heat of which is far greater than that of the common Air. The same holds true, when the Vessels, in consequence of their excessive Tenderness, break, and discharge their Humours: Now if these Observations are apply’d to the various Parts of the human Body, it will appear, that from this single Cause an infinite Train of terrible Misfortunes may arise.

When the too tender Lungs are not able to bear the Impetus of the Blood propel’d from the Heart; their Vessels being ruptur’d, an Hæmoptoe is produc’d, and, by its means, an incurable Phthisis is brought on.

When the weaken’d Vessels of the Brain are either too much distended, or, being ruptur’d, discharge their Contents, all the Disorders of the animal Functions, from the slightest Vertigo, to the most fatal Apoplexy, may be produc’d. This Doctrine holds true in all the other Viscera: But let these Observations suffice as proper Instances.

By rightly understanding what has been said, present, future, and past Disorders of the Fibres may be known, their Effects prognosticated, and proper Measures taken for their Cure.

The Physician, who thoroughly understands what has been said concerning the Nature of a too weak simple Fibre, concerning those things which preceded this Weakness, the Phe-

nomena which discover it, and the Effects it produces, may easily determine, whether such a Weakness of the Fibres is present. This, in Medicine, is call'd the diagnostic Sign, or evident Knowledge, of a present Disease, distinguish'd from all others, and denotes the individual and specific Nature of the Disease. This diagnostic Sign is obtain'd, when we know, that such physical Causes have preceded as have all along before been found to produce such a Disease. Thus, for Instance, when I consider the Case of a Man naturally weak, who has us'd aqueous Baths, drank tepid Liquors of the same Nature, and indulg'd himself in Ease, I know that such Causes as render the Fibres weak have preceded: And this is the first Foundation of the Diagnostic. The other is, a Knowledge of the Disease in its Nature, and present Effects, which, if they are subjected to our Senses, are to be judg'd of by them. But the Nature of a latent Disease is discover'd, when the Effects produc'd by this Disease, as the Cause, are known. Hence the Physician, who knows the Effects produc'd by a Weakness of the Fibres, may discover whether such a Weakness is present or not.

To make a Prognostic, imports no more than to know any thing before it happens: Hence it implies a Knowledge, in the Mind of a Physician, of a Disease which will certainly happen, tho' it does not yet exist. A future Disease is prognosticated from a Knowledge of such Causes, as, tho' they have not yet produc'd the Disease, will nevertheless do so, when they are either render'd more powerful in themselves, or begin to operate in Conjunction with others. Thus, for Instance, when a Physician knows, that any particular Man is dispos'd to an *Hemoptysis*, he will apprise him, that such a Disorder is to be dreaded by him, tho' he never before labour'd under it: He will order him carefully to abstain from Aromatics, and the liberal Use of Wine, as also from Bawling and Singing; for the Prognostic is not founded on a Knowledge of the entire Cause of the Patient's Disorder, since in this Case the Disease would be present; but on a Knowledge of some physical Cause predisposing, as a Part of a total Cause, to the Disease, and on the Physician's foreseeing that another Cause will concur, which will render the former predisposing Cause entire. When a Patient is seiz'd with a Pleurisy, and the Physician is desir'd to form a Prognostic, if he finds, that the Pleurisy is not very violent, but is neither resolv'd by Nature, nor the material Cause of the Disorder remov'd by any critical Evacuation or Translocation, and that proper Medicines have not been us'd, then he will prognosticate, that this Pleurisy will come to a Suppuration. This Prognostic did not depend upon the present Pleurisy, but upon the Pleurisy consider'd in Conjunction with such Causes as dispose an Inflammation to a Suppuration.

Thus we evidently comprehend what is meant by the Diagnostic, and what by the Prognostic.

If we have observ'd those Changes, which the Disease, known by its diagnostic Sign, has produc'd in a Body before found, we may, from these Changes seen in the Patient, conclude, that the Disease was present; and this is what is call'd *evdemonstratio*, or *Recordatio*.

By attentively adverting to what has been said, the most proper Methods of Cure may, also, be discover'd: This is the great and important Intention of Medicine; for to cure is to change the present physical Condition of the Body whence the Disease proceeds, that the Soundness of the injur'd Functions may be restor'd, and Life preserv'd.

For, after the Diagnostic has ascertain'd the Name of the Disease, its various Stages, the Part affected, and the peccant Matter in that Part, and after the Prognostic has demonstrated what is to be hop'd or dreaded; from all these we are to conclude what Measures are to be taken: These are call'd *Indicata*, or things indicated as proper; and the Knowledge thus form'd in the Mind of the Physician is call'd *Indication*.

We are always first to consider, whether the Disease is to be left to Nature, or whether any Assistance is required from Art. The Patient is as yet alive, and many Effects as yet not existing may be produc'd by Life still remaining. If this Change produc'd by remaining Life is such as has been certainly and infallibly observ'd capable of so changing the Course of the Disease, that Health may return, nothing is to be done by the Physician. Thus, for Instance, when a pleuritic Patient in the first Stage of his Disorder, in coughing, expectorates a mucous yellow Matter with bloody Strigments, by which all his Symptoms are alleviated, we know from faithful Observations made by the Antients, that, if this Expectoration can be continued, the Patient will be cur'd in a few Days. Hence we are neither by Venesection, nor other Remedies, to disturb the salutary Tendencies of Nature, but only exhibit soft Decoctions, in order to continue the Expectoration. But if, on the contrary, in a pleuritic Patient, we observe a violent Fever, a burning Heat, a dry Cough, and Dryness of the Tongue, without any Signs indicating, that Nature is inclin'd to any salutary Translocation, we then know, that if the Causes

acting in this Patient continue to act, either a mortal Gangrene will ensue, or, if the Nature of the Disease is mild, a Suppuration, which is always good, where the suppurated Matter can be evacuated. But in this Case there is always great Danger, lest the Pus form'd should fall into the Cavity of the Thorax, and destroy the Patient by a fatal *Empyema*. Hence we in this Case conclude, that the Disorder is not to be left to Nature; but that, by the Assistance of Art, the Disease is, if possible, to be so chang'd, as to prevent a Suppuration, or a Gangrene. These Assistances, or Means of Relief, are discover'd from a Knowledge of the Nature of the Disease, and the preceding Causes.

The Cure of relax'd Fibres is to be obtain'd, first, by Aliment which contains Abundance of nutritive Matter, and which is almost so prepar'd already, as to be nearly in such a State as the nutritive Juices are in a sound and robust Body. Of this Kind, the principal are Milk, Eggs, Flesh-broths, Decoctions of well-fermented Bread, and austere Wines; which are to be taken often, but in small Quantities. Secondly, by increasing the Motion of the Solids and Fluids by Frictions, Gestations on Horseback, in a Chariot, or a Ship, Walking, Running, and other Exercises of the Body. Thirdly, by a gentle Compression of the Vessels, and Repression of the Fluids. Fourthly, by acid and austere Medicines, or those of the spirituous fermented Kind, prudently and sparingly us'd. Fifthly, by all those Means which remove a too violent Distraction of the Fibres.

Here 'tis suppos'd, that there is no Fault in the whole Body; except only a Weakness of the Fibres, which is consider'd abstractedly as a Disease, independent of all others. We cannot easily cure a present weak Fibre, so as to restore it to such a Degree of Rigidity as is requisite to Health: But to a Fibre to be afterwards form'd according to the Laws of the animal Oeconomy, we can supply such Elements as may, by the Assistance of the vital Powers, produce a sufficiently strong Fibre.

The first Cause of the preternatural Weakness of the Fibres mention'd, was an obstructed Assimilation of the crude Aliments to the Nature of that concocted Liquor, which is the most subtle of all others, and carried through the most minute and capillary Vessels. But, that the Fibres may become sufficiently strong, there must be a proper Matter apply'd and added to them. Now this proper Matter is that, which, having undergone the several Actions of all the Viscera and Vessels, according to the Laws observ'd in a sound Constitution, has acquir'd the highest Perfection of Elaboration. But since the Fibres are suppos'd too weak, and since the Action of all the Vessels upon their contain'd Fluids depends upon the due Strength of the Fibres; all the Functions employ'd in changing the crude Aliments into our Nature, will be less efficacious. Hence, in such a Body, this Matter subservient to Nutrition can never be prepar'd by its proper Powers. For this Reason, Physicians are often surpris'd to find, that the best Fleashes eaten by such a weak Patient do not nourish him; but these Fleashes are only the remote Matter from which the vital Functions prepare the Nourishment; and, when these Functions are injur'd, the best Aliments are in vain exhibited.

Whilst the tender Embryo is lodg'd in the Uterus of its Mother, the Humours prepar'd by the vital Powers of the latter nourish the former, since the tender Body of the Fœtus would not be able, from other Substances less assimilated to its Nature, to prepare its Nourishment. When 'tis born, the Milk conveys into its Habit the Humours prepar'd in its Mother's Body. Thus Medicine, imitating Nature, conveys, into such weak Bodies, Nourishment prepared in the Body of a sound Animal: Among the most considerable of which are,

Milk. Every Man is nourish'd by his own Milk, and, by the Force of the vital Principle, from it alone prepares all his other Solids and Fluids: For in Men there is always Milk, as well as in Women, tho' they have never born Children, nor been Nurses. In *Miscel. curios. Dec. 2. an. 5.* we are told, that Milk was drawn from a Man of sixty Years of Age, only by Suction; and in *Miscel. curios. Dec. 1. an. 3.* we are inform'd, that Milk was drawn from the Breast of a Woman, who was not pregnant: For the Chyle which has undergone the Action of the Heart, Lungs, and Arteries, and is mix'd with all the Humours, is separated from them by the surprising Structure of the Breasts.

Now, for these Purposes, the best of all others is human Milk, since it is most adapted to our Natures; for which Reason, 'tis always to be prefer'd to the Milk of other Animals. This Milk ought to be furnish'd by a sound Woman, who uses due Exercise, observes a laudable Regimen, and is in the Flower of her Age. 'Tis also best when the Breasts are drawn four or five Hours after Eating; for then the Chyle is chang'd into concocted Milk, and, having laid aside the Nature of the Aliments, begins to assume that of the human Fluids; for there

is a great Difference in Milk, according to the different Times at which it is drawn after the last Meal: That which is collected in the Breasts, immediately after Eating or Drinking, is crude, and partakes much of the Nature of the Aliments taken: And that which is drawn twelve Hours after a Meal, is thin, yellowish, and of a somewhat urinous Smell, almost like the Serum of Blood: Hence the Milk drawn in the middle Period, between these two times, is the best.

We must here also observe, that all Animals, which use their Mothers Milk, draw it immediately from the Teats, so that it is never expos'd to the Air, but is convey'd to the tender Animals, richly impregnated with all its fine and subtle Parts; for highly subtle Spirits, elaborated by the last Concotion in a sound Body, seem to be lodg'd in Milk: This is evinc'd by the large Concurrence of Nerves in those Parts, where the Chyle and Milk are prepar'd, by the subtle Steam exhaling from warm Milk, newly drawn from Animals, and by the surprising Changes produc'd on Infants by Milk: Thus I saw an Infant, who by sucking the Breast of a Nurse who was in a furious Passion, immediately became convulsive, tho' before perfectly sound in every respect.

Physicians in all Ages have endeavour'd to recruit Bodies ready to fall a Sacrifice to Weakness, by having the subtle Exhalations arising from a sound young Body, lying in the same Bed, convey'd into them. Thus, in the first Chapter of the first Book of the *Chronicles*, we are inform'd, that the decay'd and superannuated Body of the pious King *David* was cherish'd, by laying an healthy young Girl in Bed with him. When, therefore, the Milk is exhibited after it is become quite cold, or again render'd warm by the Fire, it is depriv'd of that highly subtle Principle, which was more necessary than all the rest.

Hence *Galen*, in the twelfth Chapter of his fifth Book *de Method. Medend.* uses these Words: "The Antients order'd a Nurse to give the Breast to those who labour'd under Consumptions; and I myself approve of the Practice: They also order'd, that the Patient should frequently use this Milk, and that in such a manner, as that it might not be cool'd by the circumambient Air." And, in the sixth Chapter of his seventh Book *de Method. Medend.* after having said something to the same Purpose, he compares Milk "to the genital Seed, which cannot long preserve its Virtues out of proper Vessels, but ought either to be retain'd in the Male, or speedily lodg'd in the Female; and certainly that Milk is best, which is immediately drawn from the Nipples." And afterwards, when ridiculing the Peevishness of some Persons, he adds, "As they themselves will neither use this Milk, nor allow their Children to do so, let them, like Asses, use Asses Milk."

What has been said relative to Milk, is confirm'd by a large Number of Instances: Thus *Capivaccius* informs us, that he preserv'd the only Heir of a noble Family, by ordering him to be laid between two wholesome Nurses, in the Flower of their Age, and to suck their Breasts. *Forestus*, in the fourth Book of his Observations, informs us, that at *Bononia* a certain Youth was seiz'd with a legitimate *Marasmus*, but that by sucking a beautiful young Nurse, with whom he also lay in Bed, his decay'd and exhausted Body was so recruited, that they were afraid, lest, by an unseasonable Venery, he should lose the Strength he had acquir'd by the Use of the Milk.

The Defect of human Milk is best supplied by that of Asses, which is succeeded by that of Goats, which may again be supplied by that of Cows.

Eggs, which, under a slender Shell, contain so many Miracles, and which, by the Observations of the immortal *Malpighi*, have contributed so much to illustrate the Generation of Animals, are, also, proper for this End.

The White of an Egg, in many respects agreeing with the Serum of the human Blood, contains in itself a Matter, which, by the Heat of Incubation, being chang'd, within twenty-one Days, makes the latent vital Stamen of the Chick grow to such a Bulk; for the Yolk is not consum'd, and only the White seems subservient to the Nourishment of the Chick, whilst it remains in the Egg.

Hence we may justly affirm, that it contains an excellent Nourishment. *Hippocrates*, in the second Book *de Ratione Vitæ*, informs us, "that Eggs contain a Principle of a strong, nutritive, and inflating Nature: Strong, because it produces or generates the Animal; nutritive, because it is the Milk of the Chick; and inflating, because, from a very small Bulk, the Chick is enlarg'd to a considerable Size."

For this Reason, the Whites of Eggs are recommended for nourishing weak Persons; but they are to be diluted with Water, in order to destroy their tenacious Quality; and moderately seasoned, lest their Taste should prove disagreeable. They must be diluted only with tepid Water, or Milk and Water, in equal Proportions; for, when prepar'd with boiling Water, they are coagulated into a scissile Mass of very difficult Digestion.

The Whites of Eggs fall far short of the Use of Milk; for, before the White of the Egg can nourish the Chick, it must undergo the Action of its Vessels and Viscera; whereas in Milk there are highly subtle Juices, already prepar'd by the animal Fabric.

Though the Yolk of an Egg affords an excellent Nourishment, it, nevertheless, requires a firm Structure of the Viscera; for, as *Harvey*, after *Aristotle*, has, in his *Exercit. de Generat. Animal.* justly observ'd, the Chick, some Days after its Exclusion, uses the Yolk, shut up in its Abdomen, as Nourishment. But the White is consum'd at the time the Chick is growing from an invisible Molecule to its due Bulk. For this Reason, the White seems more easily convertible into Nourishment than the Yolk.

Galen, therefore, seems to have spoken of boil'd, and not of raw Eggs, when, for weak Persons, he principally recommends the Yolks, because the White is with Difficulty concocted [*δύσπεπτον γὰρ λεγόν*], as is sufficiently obvious from the tenth Chapter of the first Book of his *Method. Medend.* where he says the same thing of poach'd Eggs.

Flesh Broths, especially if the Animals, whose Flesh is us'd in preparing the Broth, have fasted for twenty-four Hours before they were kill'd; for then all the crude Humours are, by the animal Structure so chang'd as to assume a due Quality. The Fleshes of kill'd Animals are highly succulent, because, principally, the red Part of the Blood is only carried off, whilst the other Juices remain in them, which, in boiling, being mix'd with Water, afford to weak Bodies a Matter already elaborated, and prepar'd in the Body of a sound Animal. But, in Boiling, the most subtle Parts fly off, which might be retain'd, if they were boil'd in *Papin's* Machine. Decoctions, however, prepar'd in this manner, have a saponaceous nauseous Taste; since the Fat, always adhering to Flesh, by the violent Action of the Fire and Water, whilst the Vessel is close-stopt, is so attenuated as to be intimately mix'd with the Water. Besides, Broths prepar'd in this manner are too rich, and require to be diluted. Hence, every thing of a soluble Nature ought, as much as possible, to be extracted from Flesh, till only the muscular Fibres remain, by long boiling, in a long and well-stopt common Vessel. When Broths of this Kind are thoroughly cold, a concreted Fat generally swims upon their Surface, which is carefully to be taken off, lest, as it soon becomes rancid, it should prove offensive to a weak Stomach.

It is an unaccountable Error, to imagine that Broths, destin'd for these Purposes, are the better, the more rich they are; since, in consequence of their insurmountable Tenacity, they rather too much load a weak Stomach; for which Reason a moderate Dilution of them is necessary.

But, that, by boiling Fleshes in common Vessels, a great deal of their most subtle Parts are lost, is sufficiently obvious, from the grateful and refreshing Steam arising from the Vessels in which they are boil'd, when not close-cover'd.

It is highly probable, that all those Animals are the fiercest, which prey upon other live Animals: For of this we are certain, that Dogs which fed upon raw Flesh are more bold than others.

For Broths prepar'd with this Intention, the Flesh of Fowls is generally prefer'd, then Veal, then Mutton, and, last of all, Beef. If we except the subtle Steam which exhales in common Boiling, the other nutritive Parts are lodg'd in the gelatinous Portion which the inspissated Broth affords. Now it is confirm'd by Experience, that Veal has more of this gelatinous Substance than Beef; and Mutton still somewhat more than Veal; the Flesh of Chicken yields less of this gelatinous Substance, but that of old Fowls almost double the Quantity yielded by Veal.

The best and most savoury Broths are prepar'd of a due Mixture of Veal, Mutton, Beef, and Fowls, especially if, after they are prepar'd, a little Lemon or Orange-juice is added, in order to remove their Tendency to Putrefaction.

Decoctions of well-fermented Bread. These are of singular Service among those People, who, living in hot Countries, have lean and constricted Bodies, in which, in acute Diseases, every thing has a Tendency to the highest Putrefaction. It is necessary, that, by Fermentation, the too glutinous Nature of the Grain should be destroy'd, lest it should prove injurious. In this Case, Decoctions prepar'd from it, of the Thickness of Whey, are of singular Service; but those made so rich as to have the Consistence of Cream, are less easily digested. To Decoctions of this Kind, grateful Aromatics, or a little Wine, may be added; by which means they become more rellorative.

But we must observe, that these Decoctions, prepar'd from Bread, are only advantageous for this Reason, that they nearly resemble the Chyle, in so far as it consists of Aliments, but not as it consists of a Mixture of the other Humours of the human Body: Hence these Decoctions always partake of a Vegetable Nature. But, in order to prepare

prepare the Fluids of an human Body from the Chyle, the Action of the Lungs, the other Viscera and Vessels, are requir'd: Hence in phthical Patients, and all others who have too weak Lungs, the only Hopes of Recovery are placed in the Use of Milk: Decoctions of Bread, therefore, contain a Matter far more remote from the highest Perfection of Nourishment than Milk does.

Austere Wines. In all Wines there is a highly surprising, but, at the same time, a grateful Stimulus, by which they rouse and warm all the Parts of the Body. If a small Quantity of this Liquor is drank by a Person not too much accustomed to it, all his Senses become quick, his Members agile, and his Mind chearful. When the Philosopher, exhausted by deep Researches, or profound Meditations, takes his Glass of Wine, he is forthwith refresh'd, and a new Vigour and Serenity are restor'd to his Mind. Grateful sparkling Wines, such as Champaign, are possess'd of this Quality, but their Effects do not last for any considerable time; whereas austere Wines apply their more firmly cohering spirituous Principle to the Body, by a more durable Action; and, at the same time, by their astringent Qualities, strengthen the Fibres more; for which Reason, they are, in this Case, preferable to the others. The best way of exhibiting them is to soak a Piece of Biscuit in them, to be eaten every three Hours. By this means, the Virtues of the Wine will not be so soon lost, and the flaccid Primæ Viæ will, as it were, be inspir'd with new Life; for there is an uncommon Energy and Strength in Bread and Wine. These austere Wines are, principally, *Florence*, rough *French* Wines, and black *Greek* Wines.

These remote Materials of Nourishment ought to be taken in small Quantities. Faults, with respect to this, are often committed; since, by endeavouring to restore these weak and languid Bodies, People frequently load and destroy them, by too large a Quantity of Aliments: What Difficulty of Breathing is produced, when phthical Patients, by eating but a little more than enough, oppress the Lungs too much by a fresh Quantity of Chyle? It is wisely order'd by Nature, that Infants should take but small Quantities of Milk at a time, though they have frequent recourse to the Breast. Unless, therefore, this Rule be observ'd, all other Means, though in themselves the most conducive to the End, will never be of any Service.

Among the other Causes of too weak Fibres, we reckon'd too faint and languid an Application of the Parts to each other. This Cause is remov'd when the Solids act more powerfully upon their contain'd Fluids: For, upon the Action and Reaction of the Solids and Fluids, all the Functions of the Body depend. Now this Action and Re-action are restor'd

By *Friction*, which is, as it were, an alternate Compression and Relaxation of the Parts of the Body. A gentle Friction only compresses the Veins; whereas, by a stronger Degree, the Arteries are, also, compressed. By compressing the Veins by Friction, the Motion of the viscous Blood to the Heart is accelerated. Hence the Motion of the Heart is rous'd; by which means, the Blood is, with greater Velocity, propel'd through all the Vessels. The vital Force may, therefore, be augmented to any Degree, by means of Frictions, without the Exhibition of any Medicine internally; for, by means of Frictions, a burning Fever may be excited in the most cold dropical Patient. In those Bodies where almost all the chylopoietic Organs are so languid as not duly to perform their respective Functions, Frictions with rough woollen Cloths over the whole Abdomen, when the Patient is fasting, have been found to produce surprisingly happy Effects. Hence the Antients had Frictions in so great Veneration, not only for the Preservation of Health, but also the Cure of Diseases.

When a Horse is left in the Stable without being curried, he, in a few Days, becomes good for nothing; whereas, when he is duly comb'd and brush'd, he remains agile and hardy for a considerable Number of Years: For, as *Columella*, in the thirtieth Chapter of his sixth Book *de Re Rustica*, observes, "The Bodies of Cattle, as well as of Men, are to be daily rub'd; and it is often of more Advantage to curry them sufficiently, than to pamper them with Foods."

Among the Antients there were Frictions of various Kinds, and subservient to different Purposes. Hence *Hippocrates*, in his Treatise *de Med. Offic.* tells us, "that Friction may resolve, contract, incarn, and diminish; since strong Friction contracts, gentle Friction resolves, much Friction diminishes, and moderate Friction condenses." Any Part is render'd more lax by being rub'd with soft oleous Substances.

Nothing is more beneficial in curing a Weakness of the Fibres, than Frictions with rough warm woollen Cloths, especially if previously impregnated with the Smoke of burning Amber, or Maslich, that at the same time this aromatic and corroborating Steam may enter the relax'd Parts. But we are to proceed gradually in this Work, and not use too strong Frictions at first; lest either the stagnating Fluids in the preternaturally distended Vessels should be too copiously convey'd to the Heart, and by that means overwhelm and suffo-

cate it; or the tender Vessels should be broken by imprudently increasing the Motion of the Blood.

Gestations on Horseback, or Riding. The whole Time this Exercise is continued, the entire abdominal and thoracic Viscera, being pendulous, are shak'd, and, as it were, gently rub'd upon each other; the pure Air, in the mean time, acts with a greater Impetus on the Lungs; and all these Circumstances concur to produce incredible Changes. But it is to be observ'd, that a weak Person ought not to ride with a full Stomach, but before Dinner, or after Digestion is almost over; for, when the Stomach is distended, the Concussions occasion'd by Riding are troublesome to weak Persons; whereas, when the Primæ Viæ are almost unloaded and empty, the remaining Fæces are, by this Concussion, excellently eliminated.

Sydenham laid so great a Stress on Riding, that he thought he could not only cure slight Consumptions, but an almost desperate Tabes, accompanied with nocturnal Sweats, and a violent Diarrhoea, by Riding alone; nor did he believe Mercury more effectual in the Cure of the Venereal Disease, or the Peruvian Bark in intermittent Fevers, than Riding was in a *Phthisis*.

But he orders the Time and Degrees of Riding to be gradually enlarged, so as not suddenly, and all at once, to fatigue the Patient by strong Riding; and gives memorable and beautiful Instances of Cures produced by that means. Then he subjoins, that tho' Riding on Horseback is principally beneficial to phthical Patients, yet Journeys undertaken in Chariots have often produced surprisingly happy Effects.

Hence those who are so weak, that they cannot sit on a Horse, may use a Chariot, till, becoming stronger, they are able to bear Riding. Gestation, and rocking in Cradles, never fail to prove beneficial to Children, the weakest of human Creatures.

Sailing in a Ship is also beneficial to weak Persons. Whilst the Ship is under a calm and gentle Motion, an uncommon Alacrity, an increas'd Perspiration, a keener Appetite, and a quicker Digestion, are excited. But the Tossings of a rough and stormy Sea, sometimes in the most robust Men, not accustomed to a Sea-faring Life, produce Vertigo's, Vomitings, intolerable Uneasiness, and sometimes Deliquiums: By these means inveterate Disorders have been known to be accidentally cured; but, in weak Constitutions, these violent Agitations and Commotions would be injurious.

All these are principally beneficial to weak Persons, because, without much Fatigue, they enjoy the Benefit of Motion; but after, by these means, their Strength begins to return, the Body is also to be strengthened by muscular Motion; which End is obtain'd by

Walking, Running, and Exercise of the Body: For unless Patients of this Kind use these, they gradually relapse into the same Disorder. Hence it is so often to be lamented in Practice, that young Women, cured of a *Chlorosis*, delighting too much in a sedentary Life, and neglecting to strengthen their Bodies by Exercise, a few Weeks after become equally weak and pale, as they were before. They want to be nourish'd by Aliments, and abstain from Labour; but by this means they never generate a laudable Blood, but the languid and vapid Cacoehymy returns; for, according to *Hippocrates*, in his Treatise *de Ratione Vitæ*, "Aliments and Labour have opposite Intentions, tho' both concur to the Preservation of Health: Labour consumes what is present in the Body; whereas Meat and Drink restore and recover what is evacuated and exhausted from it."

How effectually muscular Motion contributes to corroborate and strengthen a weak Body, we have already observed. Weak Persons are to begin with gentle and moderate Walking, which is to be gradually raised and augmented to Running. Those Exercises are principally beneficial, which, at the same time they employ the Body, amuse and divert the Mind; such as playing at Ball, Fencing, and others of a like Nature. Hence the sagacious Antients proposed Rewards for those, who, in the Gymnastic Exercises, surpassed their Neighbours; that, by this means, the Youth might be encouraged to strengthen and prepare their Bodies for all the Toils of War: And *Hieronymus Mercurialis*, in his Treatise *de Arte Gymnastica*, informs us, that *Cyrus*, who always had the Interest of the Persians much at Heart, enacted a Law, injoining, that his Subjects should not set down to a Meal, unless they had previously used some proper Exercise.

By a gentle Compression of the Vessels, and Repression of the Fluids. This Direction is of the highest Importance, since Diseases, by all accounted desperate, have often been cur'd by no other means than a general Compression of the Vessels, which ought never to be so great as entirely to destroy the Cavities of the Vessels; for, in this Case, the Principle of Life would be suffocated in the Part; but only to render them less than they would have been without this Compression; for, by this means, the weak Vessels are kept from being preternaturally distended by their contain'd Fluids; for the Capacity of a Vessel does not depend simply upon the distending Fluid, but on its Excess above the Resistance of the Vessel; but the more a Fibre is dilated,

distracted, the weaker it becomes: For this Reason, every thing which prevents the Distraction of a Fibre, removes the weakening Cause. Now Bandages, or tight wearing Apparel, of any kind, by proving a kind of Prop or Buttreffs to the Vessels, perform what the weaken'd Solids could not do; that is, hinder the preternatural Dilatation of the Vessels.

In the Cure of some Diseases, more happy Effects are produced by this Method, than by any other whatever. Thus, for Instance, when that Species of Dropsy call'd Anasarca has render'd the Thighs and Legs tumid, and the whole Water is discharg'd, whether by Accident or Design, the Parts not only remain pendulous and flaccid, but soon after become equally tumid, unless strengthen'd and supported by proper Bandage.

In that Species of Dropsy call'd Ascites, when the Waters are evacuated by a Perforation of the Abdomen, unless the pendulous and flaccid Belly is forthwith duly swath'd, a mortal Syncope is either brought on, or the Waters are again collected in the lax and pendulous Parts, and the Dropsy soon render'd as formidable as before.

When Fluids become stagnant, or, at least, move very slowly in the too much dilated Vessels of the Legs, the Skin is often corroded, and Ulcers of a bad Kind produc'd, especially if there is a scorbutic Taint in the Body, which often prove rebellious to the best Medicines: But these Misfortunes may, infallibly be prevented by Bandage or Socks, so tight, as to hinder the Fluids from lodging in the dilated Vessels.

I remember to have perform'd a Cure on a young Girl of Distention, whose nervous System was the most susceptible of irregular Motions, of any I had ever seen. Upon hearing a shrill Noise, or having her Eyes exposed to a sparkling Light, she forthwith became convulsive, and felt surprising Commotions, accompanied with a Sense of Laceration in her Abdomen. Neither the serulaceous Juices, nor Castor, which is generally so effectual in Cases of this Nature, were of any Service to her. But when her Legs, Thighs, and whole Abdomen, as far up as her Breasts, were duly swath'd, her Disorder immediately remitted, and, by the Exhibition of proper Remedies, she was perfectly recover'd. But, for some Months, she patiently and cheerfully liv'd swath'd up like an *Egyptian* Mummy, because she found so uncommon Relief from that Practice.

The Cure of a too weak, solid, simple Fibre, so far as it depends upon the Non naturals, and the Assistance of Surgery or Swathing, has been already describ'd. It now remains, that we consider and enumerate those Remedies, which, being exhibited internally, and committed to the Force of Nature, induce such a Change as is requisite for the Restitution of Health. The Elements of the Fibres, united by too faint a Degree of Cohesion, produce the Disease; such Remedies are therefore requisite, as, when apply'd to the Body, render this Cohesion stronger. And the Substances of this Kind are,

Acido-austere Medicines, commonly call'd Astringents. All these, when apply'd to the Tongue, exert their Virtues in a sufficiently sensible manner; for they dry the whole Mouth, and constrict all the Mouths of the exhaling Vessels. The Tongue, also, becomes, as it were, contracted, and shorter than before. Hence *Galen*, in the second Chapter of his eighth Book *de Method. Medend.* informs us, "That 'tis the peculiar Province of the Taste to distinguish astringent Substances;" for all the Medicines of this Class have this peculiar to themselves, that when apply'd to any Part of the Body, they make the constituent Elements of the Fibres approach more nearly, and adhere more strongly, to each other; and so powerful are they, that they produce the same Effect on the Parts of dead Animals; for when, by a long Maceration, Tanners have freed the Skins of Animals from their adhering Fat, they are so soften'd as almost to fall in Pieces, but a due Strength is restor'd to them by an Addition of austere Substances. This *Pliny*, in the 19th Chapter of his 13th Book, calls *Coria perficiere*; where, talking of Pomgranates, he tells us, that their Bark is principally useful *ad Coria perficienda*, for tanning Leather. Oak Bark, which is much cheaper, is at present used for this Purpose.

The principal Vegetables, possess'd of this astringent Quality, are thus enumerated in *Boerhaave's Materies Medica*. The Fruit, Juice, Flower, and Bark of Acacia; the Dose of the inspissated Juice is from four Grains to one Dram. The inspissated Juice of Sloes, call'd Acacia Germanica, from six Grains to a Dram and an half. The Juice of (*Acetosa*) Sorrel, (*Anserina*) Wild Tansy. The Fruit and Juice of Barberries. Bistort-root. The Fruit, Bark, and Root, of Capers. The immature Fruit and Leaves of Cornelian Cherries. The Fruit and Leaves of the Cypress-tree. The Flowers, Fruit, and Sponge, of the *Cynobatos*, common Briar. The Fruit and Marmalade of Quinces. The Roots of Fern. Strawberries. The Bark of the Ash-tree. The Flowers, Fruit, and Bark, of Pomgranates. St. John's-wort, the whole Plant. The inspissated Juice of Hypocystis, from one Dram to five Drams. The Leaves, Flowers, Seed, and Root, of the common Dock. The immature Fruit of the Medlar. All the Sorts of Myrobalans, from five Grains to two Drams. Myrtle-leaves. The

Leaves and Flowers of the Great Water-lily. Omphacium. Burnet. Purslain. Sloes. Unripe Pears. Oak Leaves and Acorns. Cinquefoil. Rhubarb, from half a Dram to two Drams. The Leaves and Grains of Sumach. Rose-flowers. The greater Houseleek. The Fruit of the Service-tree. Tamarinds, from one to two Ounces; the Pulp of them duly press'd and cleans'd, from half an Ounce to two Ounces. The Bark of Tamarisk. *Terra Japonica*. Tormentil-root. From all which, Infusions, Decoctions, Extracts, Pills, medicated Wines, and Remedies of various Forms, may be easily prepar'd. Thus, for Instance, an Infusion may be prepar'd in the following Manner:

Take of Wild Tansy, one Handful; of Burnet, half an Handful; and of Tormentil-root, half an Ounce: When they are cut small, infuse them for an Hour in a Pint and an half of boiling Water. The Dose is one Ounce every three Hours throughout the Day.

For a Decoction:

Take of the Flowers of the sharp-pointed Dock, one Handful; of the Flowers of red Roses, four Ounces; of Tamarisk-bark, two Ounces; of Sorrel-root, four Ounces; and of the bruised Seeds of the common Dock, two Drams: Boil for a Quarter of an Hour in a sufficient Quantity of Chalybeate-water, for two Pints of the strain'd Liquor. The Dose is an Ounce, three or four times a Day.

Or,

Take of Sorrel, two Handfuls; of Bistort-root, half an Ounce; and of Pomgranate-flowers, two Drams: When they are boil'd for a Quarter of an Hour in a sufficient Quantity of Water for one Pint of the strain'd Liquor, mix with it one Ounce of the Syrup of Myrtles. The Use of this Preparation is the same with that of the former.

For an Electuary:

Take of the Marmalade of Quinces, one Ounce; of the Conserve of red Roses, half an Ounce; of Pomgranate-flowers, one Dram; and of the Syrup of Myrtles, a sufficient Quantity for making an Electuary: The Dose of which is one Dram, three or four times a Day.

For an Extract:

Take of Sorrel, eight Handfuls; of the Garden Dock, four Handfuls; and of the Cinquefoil, six Handfuls: Make these Ingredients sufficiently clean, cut them small, boil them in a sufficient Quantity of Water, squeeze them strongly by a Press into a large Vessel, and let them evaporate to the Thickness of an Extract; for a Dose of which, from one to two Drams may be exhibited: Or add to the Extract a Quantity of dry'd Bistort-root, sufficient for forming it into a Mass for Pills, the Dose of which is from four to fifteen Grains.

For a medicated Wine:

Take of the bruised Seeds of the greater Sorrel, six Drams; of Pomgranate-flowers, five Drams; of the Root of Capers, two Ounces; of the Bark of the Ash-tree, ten Drams; of the Leaves of Burnet, two Handfuls: When they are cut and bruised, infuse them in three Pints of austere French Claret: Of which an Ounce is to be taken three or four times a Day.

Or,

Take of the Barks of Caper and Tamarisk-roots, each one Ounce; of the Flowers and Stalk of St. John's-wort, two Ounces: Of these prepare a medicated Wine, with three Pints of austere Red-wine.

But, among the Astringents of the fossil Kind, the most valuable is Iron dissolv'd in fermented vegetable Acids; by the Use of which, these tumid, cold, and weak Bodies, are miraculously restor'd. By means of this Medicine, no Evacuation of the distending Fluid is made, but an additional Strength is procur'd to the Vessels; by which, being more contracted, they promote the Motion of the almost stagnant Humours; whereas those who attempt the Cure of these Disorders by Evacuation, weaken the Patient still more and more.

They who use Medicines of this Kind, perceive a grateful Warmth arising over all their Bodies; the Swelling subsides, the pale Colour of the Lips and Cheeks is chang'd into a natural and grateful Red; the Torpor, and Difficulty of Breathing, upon

upon the slightest Motions, are remov'd ; their former Agility returns ; all the Functions are invigorated ; and a new Life is, as it were, restor'd. The same Effect is also produc'd by Iron dissolv'd in medicinal mineral Waters.

By spirituous fermented Liquors. The Serum of Blood, or the White of an Egg, are immediately coagulated by an Affusion of pure Alcohol ; and the solid Parts of Animals become far more hard, and are contracted every Way, by being deposited in Alcohol. Hence this Fluid is possess'd of a Power of shortening the solid Parts of Animals ; but, at the same time, it coagulates the Fluids ; for which Reason great Caution is requisite in the Use of fermented Spirits ; for, when they are imprudently used, they may produce a large Train of Misfortunes, by inspissating the Fluids, and contracting the Solids. Thus, in the *Hist. de l'Academ. des Sciences, An. 1706.* we are inform'd, that, upon dissecting the Body of a Woman strongly addicted to Drinking, the Spleen, Pancreas, Liver, and Lungs, were found dry, scirrhus, and, in some measure, petrified. All the Glands, in the mean time, both internal and external, had assum'd a Degree of Hardness, almost equal to that of a Stone. Many other Observations of the like kind occur in practical Writers.

But these must be used prudently and sparingly ; for all these Medicines, when taken inwardly, act first on the Stomach and Intestines, and can never enter the Blood with their entire Virtues, otherwise they would prove injurious ; for this Reason they ought to be exhibited in small Quantities, and at different Times, that, by this means, being diluted by our Humours, they may gradually enter the Mass of Blood. If only a few Grains of the highly astringent Juice of the *Egyptian Thorn* are held in the Mouth, they contract every Part of it, and so constrict all its exhaling and inhaling Vessels, that the Mouth remains highly dry for half a Quarter of an Hour. If, therefore, this Juice should be apply'd immediately to the delicate Orifices of the lacteal Vessels, it would, by constricting them, prevent its own Access. But as all these Medicines act first upon the *Primæ Viæ*, and cannot, till much diluted, enter the Mouths of the Lacteals, and, as it were, by stealth, insinuate themselves into the Mass of Blood ; hence their Virtues must be much diminish'd, before they arrive at this last-mention'd Fluid. Thus *Galen*, in the fourth Chapter of his second Book *de Method. Medend.* justly cautions us, " That for this Reason we ought carefully to consider not so much the present and immediate Effect of any Medicine, whether external or internal, as the Effect it will produce when it reaches the Part affected."

Astringents, especially those of the more powerful Kind, imprudently used, may, partly by coagulating the Liquids, and partly by bracing up all the tender Vessels which constitute the internal Surface of the Stomach and Intestines, produce most terrible Disorders.

Hence Steel, dissolv'd in the milder Acids, is prefer'd to almost all other Astringents ; because it not only operates by its austere and astringent Quality, but by the Stimulus of its metallic Sulphur, which is highly friendly to Nature, surprisingly rouses the vital Principle. See *MARS*.

By all the Means which remove a too violent Distraction. Distraction removes the Elements, of which the most minute Fibres are composed, from a mutual Contact : For this Reason it disposes them to a Rupture, which is no more than a Privation of Cohesion. The State, next to a total Rupture, is the weakest Cohesion capable of being surmounted by the smallest additional Force. Every thing, therefore, which distracts, by lessening the Cohesion, produces Weakness. When the String of any musical Instrument is stretch'd by Weight, by increasing this Weight gradually, the Distraction is augmented, till at last the String breaks. Immediately before the Rupture it coher'd, but so faintly, as to break by a very inconsiderable additional Weight. The Person, therefore, who removes the Weights which distract the String, increases, by that very means, its Strength.

This holds equally true in the Fibres of the human Body ; for, when the distracting Causes are lessen'd, the Strength of the Fibres, by which they endeavour to shorten themselves, is almost continually and proportionably increas'd. This is confirm'd by what happens in several Diseases. Thus, a certain Person, by a scirrhus Tumor gradually increasing, had his Oesophagus so compress'd, that, during the last Months of his miserable Life, he could only, with the greatest Difficulty, swallow a few Drops of Milk diluted with Water, or the like Quantity of very thin Broth. Upon laying open his Body, I saw, that the Cavity of his Stomach did not exceed that of one of the small Intestines ; for, during a considerable Number of Months, it had not been at all distended ; for which Reason, its Fibres had gradually contracted it into so small a Compass : for all the solid Parts of our Bodies are possess'd of this surprising Property, that when they long remain in any determin'd Position, they afterwards so firmly retain it, that they cannot by Force be removed from it.

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If a Man has the Misfortune to break his Leg, and if the Surgeon, in the Course of the Cure, neglects now-and-then gently to bend the Joints, they remain ever after immovable ; for the Ligaments, not being distended for several Weeks, for want of Motion in the Joints, become rigid and hard.

The Laxity of a Fibre consists in such a mutual Cohesion of the Parts, as by a small Force may be so chang'd, that the Fibre becomes longer than it was before : Hence 'tis obvious, that the Laxity of a Fibre is a Species of Weakness, and that the Flexility, as also the impair'd Elasticity, of a Fibre, depend upon it ; as is obvious from what has been already said ; for Glass, the most brittle of all Bodies, may, by the Rules of Art, be drawn out into Threads more slender and minute than those of a Spider's Web ; which yet cohere, and, by the smallest Force, are capable of being twisted in every Direction without a Rupture. The Flexility of a Body increases in proportion to its Slenderness. See *Hist. de l'Acad. Royale, 1713*.

As for the Laxity of a Fibre, Fibres are said to be too weak, when, their Cohesion remaining entire, they cannot sustain that Impetus which must necessarily be made by the animal Functions for the Preservation of Health ; or when, though able to bear the Efforts of the Functions in the most perfect State of Health, they yet break, upon the Motion being a little increas'd, which must sometimes unavoidably happen in the animal Oeconomy. But a preternatural Laxity of the Fibres is known to be present, when they indeed bear the Impetus of the vital Motion without having their Cohesion destroy'd, but, being too much distracted by a small Force, become longer than they ought to be.

A silk Thread, not able to bear a Weight fix'd to it without breaking, furnishes us with a pretty adequate Idea of a too weak Fibre ; and a Wire, made of the softest Lead, which, by having a Weight fix'd to it, is drawn out into a considerable Length before it breaks, gives us the Idea of a too lax Fibre. Upon a due Degree of Laxity depends

Flexility. That all those things may happen in the Body, which are daily observ'd to be perform'd by the various Motions of the Humours, Vessels and Muscles, the Elements of the solid Parts must partly remain in their natural Cohesion, and partly be changed from it ; for which Reason they must necessarily be capable of Elongation. Thus, for Instance, in order to the bending of the Joints, their retaining Ligaments must necessarily be capable of Elongation. For this Reason, a certain Degree of Laxity in the Fibres is requisite to Health ; but, if this Degree is enlarg'd, a Disease is produc'd : Which is,

An impair'd Elasticity of the Fibres. The Elasticity of Fibres consists in this, that they are capable of being extended, but again return to their former Length, when the extending Force is remov'd.

But the whole Force of Elasticity is only that Effort by which the minute Parts, which constitute the Fibre, mutually attract each other, whilst, by the Elongation of their Surfaces, they become more distant from each other, their Cohesion in the mean time remaining. If, therefore, a Fibre is render'd weak by any Cause whatever, that is, if its Parts attract each other with a faint and languid Effort, its Elasticity must of course be necessarily impair'd.

The large Vessels of the human Body are composed of such as are smaller, and these of others still smaller ; so that Anatomists have as yet come to no End of their Division. The larger Muscles, in like manner, consist of others which are smaller ; and what, to the naked Eye, appears a single muscular Fibre, by the Assistance of Microscopes, appears a Congeries of smaller Fibres.

The same is also observ'd in the Nerves, and other Parts of the Body. Hence all the Parts of the Body seem to consist of an infinite Number of smaller similar Parts ; and this wonderful Circumstance was requisite for the Flexility of the Parts ; and, from the Experiment before alleg'd, we may easily conceive, how Glass, the most brittle of all Bodies, may, by a simple Division into the most slender Filaments, be render'd incredibly ductile ; which made the ingenious *Reaumur*, in the *Mem. de l'Acad. Royale des Sciences, An. 1713*, affirm, that he did not despair of seeing Webs woven of it. I myself saw a false Head of Hair made of Glass, drawn out into Wire so fine, that without breaking, it was capable of being turn'd up into Curls.

From what has been said, we may account for the following Phenomena ; why aqueous and pingulous Aliments render the Fibres weak ; why the Fibres of such as are of cold Habits, young, addicted to Ease, and growing, are weak ; why earthy and austere Substances render the Fibres strong ; why the Fibres of such as are of hot Constitutions, and such as use Exercise, are also strong ; and, lastly, why Elasticity is an inseparable Concomitant of the Strength of the Fibres.

As for aqueous and pinguious Substances, we are taught from Experience, that they weaken the Fibres; for the hardest Parts of Animals are render'd soft, by being expos'd to the Steam of tepid Water: Long-kept Hartshorn becomes scissile, by being expos'd to the Steam either of tepid, or boiling Water; as we observe in the Philosophical Preparation of Hartshorn in the Shops. Young Women, also, by the daily Use of tepid aqueous Liquors, become highly weak and flaccid. In the second Chapter of the Book *de Usu Fluidorum*, ascrib'd to Hippocrates, the Disadvantages attending the liberal Use of warm Liquors, are said to be, "Weakness of the Muscles, Impotence of the Nerves, Stupidity of the Mind, Hæmorrhages, and Deliriums."

The Weakness of a Fibre consists in the easily-separable Cohesion of its Parts. Now the Elements, or constituent Parts, of Water cohere very faintly with each other: Hence, if two or more Particles of Water should be interpos'd between the Elements of a Fibre, the Fibre would in all Probability be render'd weaker by that means; but if only single Particles of Water should be lodg'd between the Elements of the Fibres, they will by that means be render'd much more rigid; for the Elements of Water, consider'd abstractedly and by themselves, seem to be highly hard and immutable, and may in a surprising manner be form'd into Concretions with other Bodies, as we have shewn in the Beginning of this Article. Hence, perhaps, the Reason may be deduced, why the Parts of Animals become softer, by being wet with Water; but, when dry'd again, assume a far greater Degree of Rigidity than they had before. But that Water is capable of insinuating itself between the Elements of Bodies, and removing them from their mutual Contact, is sufficiently certain from the Experiments recorded in the *Mém. de l'Acad. des Sciences, An. 1714.* where we are told, that Shreds of Paper wet with Water become longer by a sixth Part than they were before.

'Tis also confirm'd by many Experiments, that for the like Reason the solid Parts of Animals are soften'd by pinguious Substances. The most rigid Skins of Animals become soft, when impregnated with Oil. The Muscles, in order to make them retain a due Degree of Flexibility, are every-where enveloped in oleous Coats; and, lest the Ligaments should become rigid, an attenuated medullary Oil is pour'd upon them; and they become highly rigid, when, in excessive old Age, this Oil begins to be defective. On the contrary, as there is a Redundance of it in too fat Persons, it renders their weaken'd Bodies highly lax and tumid.

Persons of cold Constitutions have weak Fibres. Cold, indeed, absolutely consider'd, strengthens the Fibres, by bringing their Elements into a more immediate Contact with each other; but, in Persons of cold Constitutions, the Circulation is languid, the Blood too little compress'd, the crude Aliments not at all chang'd, and the minute Elements of the Fibres apply'd to each other by two small a Force. Hence their Cohesion is proportionably less.

Young Persons have also weak Fibres. The human Embryo is originally a Molecule almost infinitely small; and when it is gradually increas'd, so as to become observable by the Senses, it would dissolve away into a mucous Substance, unless it was sustain'd by the equable Pressure of a circumambient Fluid. A new-born Infant is soft, pulpy, and has all its Bones as yet flexible; as it advances in Years, it becomes gradually firmer. Hence, the younger a Person is, the softer the Parts of his Body are. For this Reason his Fibres, tho' sufficiently firm for his youthful State, may yet be call'd weak, when compar'd with those of Adults. This seemingly unfortunate Circumstance was absolutely necessary, that the human Body which grows from so small a Molecule to so large a Bulk, might be easily extended every Way.

Such as indulge themselves in Ease, have, also, weak Fibres. This is obvious from what has been already said; for when Girls are, by means of the salutary Use of Steel, cur'd of a Chlorosis, but neglect to use proper Exercise, they soon relapse into their former Languor. Hippocrates order'd languishing dropical Patients to use Exercise; but, in acute Diseases, he recommended a State of perfect Rest; because, in these, the vital Force, too much augmented by the Fever, consum'd the Fluids, and of course render'd the Solids dry. Hence, almost the whole Cure of acute Disorders consists in bringing on a Disposition to a Dropsy, that is, a greater Weakness.

Growing Persons have also weak Fibres. For the Humours which fill the conic Vessels, being carried from their Bases to their Apices, always endeavour to lengthen the Sides of their Vessels, according to the Axes of their respective Cones. So long as these Canals or Vessels are capable of Elongation by this Impulse, the Man grows. Hence a small Degree of Cohesion is necessary to render them capable of yielding. Now, the younger Persons are, the faster they grow, because, at this time, their Solids make little or no Resistance; for in nine Months time the human Fœtus grows from an invisible Molecule, to an Infant weighing sixteen, and, sometimes, twenty Pounds.

In Youths, also, not arriv'd at their full Growth, we observe, that a Fever lengthens the Vessels as yet capable of Elongation, so as to produce a sensible Increase of Stature. Such a faint Cohesion of the Fibres, as renders them capable of yielding, is, therefore, requisite and necessary to what we call Growth. When, therefore, by strong Labour the Bodies of young Persons are render'd firm and hard, a proportionable Stop is, by that means, put to their Growth before the due Time. For this very Reason, those who train up Lap-dogs, whose Worth is, by the Ladies, estimated according to their Smallness, daily give them Brandy to render their Bodies firm and hard.

Earthy and austere Substances, also, strengthen the Fibres. With respect to austere Substances, we have already observ'd, that they are experimentally found to be possess'd of a Power of making the Elements of our Fibres approach more near to each other. And as earthy Substances are of an absorbent Nature, they attract all the Moisture which approaches them, and are form'd into firm Concretions by it. A new unglaz'd Tobacco-pipe, when apply'd to the Lips, adheres so firmly to them, that it can scarcely be pulled away without hurting them. Since, therefore, aqueous Substances, as has been already shewn, weaken the Fibres, those Bodies, which absorb Water, must of course be reckon'd among the Substances which corroborate them.

Persons of hot Constitutions have strong Fibres. Heat, externally apply'd to the Body, weakens all its Parts, makes the Elements of the Fibres recede from each other, and consequently renders them proportionably weaker: yet, in Persons of hot Constitutions, whose dense and compact Fluids are briskly carried thro' the Vessels, the Force by which the Aliments are assimilated to the human Fluids, is always strong, and the Elements of the Fibres efficaciously apply'd to each other; and upon these two Circumstances depends the Strength of the Fibres.

There is a great Difference betwixt Heat excited by Fire, and that excited by a brisk Motion of the Body. The Man, who in the Winter-time banishes Cold by sitting near a Fire, is by that means render'd languid and weak; whereas the Person, who endeavours to remove Cold by a brisk Motion of the Body, remains lively and agile.

Persons who use sufficient Exercise, have, cæteris paribus, stronger Fibres than others.

This is sufficiently evident from what has been said; for the Country-man, who earns his Bread by hard Labour, has all the Parts of his Body firm and robust; he despises the Inclemencies of the Seasons, and easily digests the strongest Aliments; whereas the Man who indulges himself in Ease and Luxury, is weak and miserable, is highly sensible of the smallest Change of Air; and by a thousand delicate Dishes, the shameful Inventions of Luxury, and not of genuine Hunger, can hardly excite his languid Appetite.

Elasticity is a necessary Concomitant of the Strength of the Fibres; for those Bodies are said to be elastic, which, when distracted, return into as many Points of Contact as they were in before. Hence, a strong Force is necessary to make the Parts mutually attract each other; and in this Force consists the Strength of the Fibres, as will be sufficiently obvious from the following Example: Two Load-stones, when apply'd to each other, cohere; and if they are a little remov'd from each other, but so as to remain within the Sphere of each other's Attraction, they are again united. Thus the elastic Parts of the Body, when remov'd from each other, again mutually attract each other, and are restor'd to their former Cohesion, when the distracting Cause is removed. When any Part of a weak and leucophlegmatic Girl's Body is press'd with the Finger, it yields like a Piece of soft Paste, and rises slowly, and with Difficulty; whereas the Parts of a sound and vigorous Man are so elastic, as to restore themselves immediately.

Thus we have describ'd the most simple Fibre, laid down a Method for discovering its Nature, enumerated the Causes which concur to produce it, specify'd the several Accidents to which it is subject, directed how to form just Prognostics with respect to its Disorders; how, from the known History of the Disease, describ'd by its Signs, we may form a proper Indication, which teaches in what manner, and by what Medicines the Physician ought to attempt the Cure; and from the Whole deduced some general Corollaries.

The Weakness, however, of the simple solid Fibres is rarely unattended with other Misfortunes; but it was necessary to consider them in this abstracted Light, that their Nature might be the more clearly understood; for this Reason we have gone upon the Supposition of a Man perfectly sound, who next Moment had his Fibres render'd too weak by any Cause whatever.

TOO GREAT RIGIDITY OF AN ANIMAL FIBRE.

The too great Rigidity of a Fibre is such an Union of its Elements, or most minute Parts, as makes them cohere in such a manner as not to yield to that Action of the Fluids, which, in order to the Preservation of Health, ought to overcome this Resistance.

Life and Health depend on this, that the Fibres of all the Arteries are so flexible, that they may, by the Blood impel'd by the muscular Force of the Heart, be distended to such a degree, as to be capable of receiving this impel'd Blood; for, when the Heart is in its Diastole, the Arteries and Veins are full; otherwise there would not be a continued Propulsion of the Blood. The Moment after, the Heart in its Systole expels the Blood into the Arteries, which are already full, and through them into the Veins, which are also full: Hence, if these numerous Vessels should forcibly resist their Dilatation, since the Blood is not capable of great Compression, the Heart could not be emptied, and Life would be destroy'd: Hence the Fibres constituting these Vessels must be possess'd of such a Degree of Laxity as to render them capable of yielding to the distending Blood expel'd from the Heart into the Vessels before full: The more rigid, therefore, these Fibres become, the stronger Resistance they make.

Hence, as we cannot absolutely define a too weak Fibre, so neither can we positively ascertain when a Fibre is too rigid, but must consider it with relation to various Ages. Thus, that the little Heart of the tender Embryo may be sufficient for dilating the Vessels, by propelling the Blood, so small a degree of Cohesion is necessary, that the solid Parts, upon being touch'd, dissolve into a kind of Mucus.

The Rigidity of the Fibres is produc'd by those Causes which the Cure of a weak Fibre requires, if they are intense, or continue too long.

We have already given the History of too weak a Fibre, because the Cure of that gives us some Insight into the Causes of too rigid a Fibre: But, instead of repeating all that has been said concerning the Cure of too weak a Fibre, we shall only illustrate the Matter by one Example: Moderate Labour, then, strengthens the Body; excessive Labour dries it, and renders all its Parts rigid. As the Country-people are, from their Infancy, oblig'd to use hard Labour, they are sometimes, about the fortieth Year of their Age, so rigid, and their Humours so much exhausted, that their stooping Bodies become the true Picture of Death, till at last they are cut off by a Marasmus, like that which is the Effect of Age.

When a Rigidity of the Fibres is produc'd, it renders the Vessels compos'd of these Fibres less flexible, more narrow, shorter, capable of resisting the Motion of the Fluids too strongly; and, also, is attended with all the Consequences arising from these Circumstances.

The Vessels of the human Body always resist their Distention: Hence their Capacity depends upon the Excess of the distending Force above their contractile Power. When, therefore, this contractile Power of the Vessels is increas'd, the distending Force remaining the same, the Vessels must of course be more contracted, or be render'd more narrow. The highest Degree of this Disorder is, when the Vessels do not at all yield to the distending Fluids: Hence the Circulation of the Blood is forthwith stop'd, and that calm and gentle Death, which sometimes happens in excessive old Age, is produc'd, when all the Vessels, becoming rigid, resist the impel'd Fluids. When by any Cause the Fluids are diminish'd, the natural Strength of the Vessels so contracts them, that they remain full, but at the same time less distended than they were before.

In an acute continual Fever a Man may, in a Fortnight's time, lose half of his Weight, the Vessels, in the mean time, being gradually contracted, in proportion as his Fluids are diminish'd. This is sufficiently obvious; for all Animals, in which the Strength of the Fibres is increas'd, have Vessels more contracted than other Animals, whose Fibres are weaker.

An Horse full-fed, and kept in a State of Rest in the Stable, becomes fat by this means; but when his Exercise is gradually increas'd, till at last he is daily accusom'd to the hardest Fatigue, he perhaps loses a third Part of his Weight, but at the same time is render'd more hardy, and fit for Labour; by which the Fibres of his Vessels are so consolidated, that he will not afterwards become so soon fat, when he enjoys Ease, and is well-fed.

The Rigidity of the Fibres renders them shorter. The Impetus of the Fluids impel'd through the conical Canals, endeavour their Elongation: Hence the Fibres are lengthen'd, so long as their Cohesion admits of it. This is sufficiently evinc'd, by the remarkable Growth of young Persons after any acute Disease. When a great Toe was cut off by one Stroke of a Chisel, I remember to have seen two Arteries to start forth from the even Surface of the wounded Part to the Length of a geometrical Line [the twelfth Part of an Inch]; so much were these Vessels lengthen'd by the Impetus of the Blood, notwithstanding their Distance from the Heart. When the Fibres become too rigid, they are incapable of Elongation, and

are at last, in consequence of their Strength, shorten'd; as is obvious in old Persons, who become actually less than they were in their Youth.

The Vessels, in consequence of the Rigidity of the Fibres, resist the Motion of the Fluids too strongly: For, when the Heart forces the Blood through the Arteries, a Part of the Impetus communicated by the Heart is spent in dilating the Arteries, whilst the other Part propels the Blood through them; if, therefore, the Arteries should become rigid, or less capable of Dilatation, the more of the Impetus communicated by the Heart will be spent in dilating the Arteries, and the less in propelling the Blood through them. Hence the Reason is sufficiently evident, why too great a Rigidity of the Fibres increases the Resistance of the Vessels to the Fluids, which move through them: And, as all the Functions of the animal Oeconomy depend on a due Circulation of the Humours thro' the Vessels, hence a Cause, apparently so simple, may produce a numerous Train of Disorders.

From what has been said, a Rigidity of the Fibres may be known, its future Effects prognosticated, and a proper Method of Cure discovered.

The Diagnostic, which informs us whether a Rigidity of the Fibres is present, may be easily discover'd; for, if a Person is emaciated, has his Mouth and Jaws dry, his Skin parched, and his Joints less flexible than they ought to be, and if these Symptoms remain, notwithstanding the Use of such Things as render the Body moist and plump, we conclude that the Solids are too firm, that they prevail over the Liquids, and dissipate them too soon. Persons in this State are highly emaciated, and voracious, digest their Aliments too soon, and have their Juices dissipated.

Now, if we know, that either such Aliments or Medicines as are employ'd for the Cure of too great a Weakness of the Fibres, have been too plentifully us'd, we prognosticate a future Rigidity.

Various and surprising Disorders are produc'd, according as this Rigidity is either universal, or confin'd to some particular Part; for anatomical Observations have sufficiently evinc'd, that all the known Vessels of the human Body are capable of being render'd rigid, and that often by Causes of such a latent Nature as not to be discover'd by our most diligent Researches.

Thus sometimes a Finger, and sometimes a whole Arm, gradually decreases, and becomes parch'd; for if the Resistance of the Vessels is, by any Cause whatever augmented, their Extension will be proportionably diminish'd: Hence a slow Marasmus ensues. I myself saw a Woman under forty Years of Age, who, without any perceptible Fault in her Body, without any Signs of an internal Suppuration, and without the Increase of any sensible Evacuation, in two Years time by a slow Marasmus had her Fluids so exhausted, that her squalid loathsome Skin only cover'd her Bones. Perhaps Disorders of this kind are what the Antients call'd *en vîs zûgers*, old Age brought on by a Disease.

The accurate *Sartorini*, in the third Chapter of his anatomical Observations, informs us, that whilst he was dissecting the Body of a Man, whose Right Eye had, long before his Death, been afflicted with a legitimate *Amaurosis*, he found the optic Nerve of the same Side preternaturally small and dark-colour'd. In this Case a too great Rigidity seems to have been produc'd in the Right optic Nerve by a latent Cause. A great Variety of Disorders are produced, when a preternatural Rigidity happens in any of the other Organs of Sense, or the Viscera.

Hence the Means of removing a too great Rigidity of the Fibres are discover'd.

This Disorder then is remov'd, first, by Aliments and Drink of a mild and aqueous Nature, especially Whey, the softest Pot-herbs, diluted, farinaceous, and unfermented Liquors. Secondly, by Rest, in a somewhat cool and moist Air, together with plentiful Sleep. Thirdly, by unsalted aqueous Remedies, exhibited internally, or apply'd externally tepid, using, in like manner, smooth and mild oleous Substances.

By Aliments and Drink of an aqueous Nature. We call aqueous Drink, either Water itself, or any other Liquor in which Water predominates. We call aqueous Aliments, such as have Water for their most considerable Ingredient, such as Gruels, Broths, and others of a like Nature. All these apply a large Quantity of Water to the internal Parts of the Body, carry it through all the Vessels, and soften and lubricate all the Parts; for Water, especially when tepid, is possess'd of a Power of softening the hardest Parts of Animals: Thus Horns, Hoofs, and even Bones, may be render'd soft by warm Water.

Hence

Hence we observe, that the Inhabitants of the hottest Climates, who have their Bodies highly constricted, are principally fond of Water, and aqueous Substances. 'Tis not to be wonder'd at, that Whey is here commended, since the Use of Milk was before order'd for corroborating too weak Fibres: For, in Whey, the subtile, spirituous, and caseous Parts are wanting, and the aqueous Part only remains, which is richly impregnated with the dissolving Quality of the Grass. For these Purposes, the best is Whey of Butter-milk, stript of all its pinguious Principles, and somewhat sour: Hence this Liquor is highly useful in all acute Diseases. To this Class belong all the Juices of perfectly ripe Summer-fruits.

The softest Pot-herbs. All these are enumerated in the *Materies Medica* of Boerhaave; and there is neither any great Taste nor Smell in any of them; but they yield an aqueous and highly emollient kind of Mucilage. Broths prepar'd from these are highly beneficial to Persons of this atrabiliarious Habit.

The Pot-herbs mention'd by Boerhaave are these;

Orache, Potatoes, Beets, Borrage, red Cabbage, Earth-nuts, Chervil; all the Kinds of Succory, Artichokes, Cucumbers, Dandelion, Endive; almost all Sorts of Lettuces, Parsnip, Purslain, Turneps; the Roots of Skirrets, the Roots of Vipers-grass, Spinage, the Roots of Goats-beard, small Valerian.

Boerhaave, in his *Materies Medica*, specifies the subsequent soft, aqueous Substances, which he recommends as proper in the Case before us:

Thin Decoctions of Bread, the Juices of ripe Summer-fruits, either crude, or boil'd with a little Water, and sweeten'd with Sugar; the Juice of Oranges, the Juice of Elderberries; all the Kinds of sweet Cherries, sweet Citrons full-ripe, Garden-cucumbers, Garden-gourds, Figs, Strawberries, ripe Pomegranates, Jujubs, sweet Lemons, Apricots, Melons, Mulberries, Peaches, Apples possess'd of a Sweetness together with a kind of Acidity, sweet Plums, red, white, and black Currants, Raspberries.

From these many Sorts of agreeable Aliments may be prepar'd by boiling, roasting, and other ways of Management.

A Decoction of Oats alone, drank daily in large Quantities, so impairs the strongest Man, as to render him entirely weak and languid. Country-people, also, have a Practice of rendering Swine lax and fat, only by Meal mixt with Water or Whey.

Many of the common People, who lead a sedentary Life, use no violent Exercise, and live constantly on these farinaceous Substances, have always highly lax Bodies.

Farinaceous Vegetables are these;

Sweet Almonds, Oats, Buck-wheat, Barley, Mays, Millet, Rice, Panic, Pistachios, Wheat, Rye, Speltwheat.

From all these, Decoctions, Cremors, and Panadas, may be made.

Diluted farinaceous Liquors. When Water is drank by Persons of constricted Bodies, in which the Humours are always compact and dense, it does not remain long in the Body, but is forthwith dissipated. 'Tis often to be lamented in acute Diseases, that the Water drank by the Patient is forthwith carried off, either by Urine or Sweats. But the farinaceous Substances mention'd in Boerhaave's *Materia Medica* as proper for this Purpose, when mixt with the Water, render it somewhat more viscid; by which means it is retain'd, and not so soon expel'd from the Body. This seems to be the Reason why Hippocrates, in his *Treatise de Ratione Vitae in Acutis*, condemns the drinking of Water in acute Disorders, whilst, in the same Book, he so warmly recommends the Use of Ptilin. All these farinaceous Substances procure a kind of Viscidity to the Water, and, by their latent Oil, which is capable of being mixt with Water, and which may be express'd from them, soften all the Parts of the Body.

Unfermented Liquors. The same is true with respect to the Juices of the Summer-fruits; for spirituous fermented Liquors were justly class'd among the Remedies for a Weakness of the Fibres; for, by means of Fermentation, from all these are produc'd those spirituous Liquors, which, when reduc'd to their highest Perfection, like a Fire, as it were, parch all the Solids of the Body, and condense the Blood into irresoluble Masses.

By Rest. Muscular Motion is a principal Remedy in the Cure of too great a Weakness of the Fibres, 'tis not, therefore, to be wonder'd at, if Rest should produce the contrary Effect. Those who fatten Animals, keep them, as much as possible, from Motion, and feed them plentifully. Hence in acute Diseases, where all the Parts are render'd highly dry, the ancient Physicians order'd as much Rest as possible, especially in a somewhat cool and moist Air; for a cold and dry Air corroborates the Fibres.

But nothing more relaxes the Body, than the Warmth of the Bed, especially when the Patient indulges himself in Sleep; for in this Case the Patient is, as it were, in a Bath,

consisting of the Exhalations arising from his own Body: For this Reason, all Animals are somewhat larger after Sleep, than they were before. Hence Hippocrates, in his second Book *de Ratione Vitae*, affirms, "that long Sleeps, by the Heat they produce, colliquate the Flesh, relax the Body, and render it weaker."

And, in his *Treatise de Affectionibus*, he uses these Words: "In Disorders where Dryness is beneficial, 'tis highly conducive to sleep as little as possible: But in such as require Humidity, the Patients ought neither to want Aliments, nor Drink, nor to labour hard, but to sleep as much as they have a mind."

As for aqueous internal and external Remedies; the most considerable of these, and that which is the Basis of all the others, is Water, which, when warm, and rising in Steams, is capable of softening the hardest Parts of Animals to such a Degree as almost to dissolve them. In acute Diseases, where the Skin is often parch'd and dry, in consequence of a total Constriction of the exhaling Vessels, the Attempts to provoke Sweats by the hottest Medicines are fruitless and unsuccessful: Whereas, when the naked Body is expos'd to the Steams of tepid Water, the Mouths of the Vessels are relax'd, the Skin becomes moist, and soon after profuse Sweats appear. And, because in these Diseases the internal Parts are as dry as the Skin, Clysters of a like Nature are to be inject'd, and aqueous Decoctions prepar'd with farinaceous Substances to be exhibited, in order to soften the internal Parts. And when, by the long-continued Use of these aqueous Substances, the Body is weakened, the opposite Disorder, that is, a Dropsy, is often induced.

All these aqueous Remedies ought to be us'd tepid; because cold Substances condense and corroborate the Fibres, and too hot Substances coagulate the Blood, and burn the Solids to a gangrenous Crust.

All the Medicines of this Kind ought to be without Salt; because Salt indurates all the Parts of the Body, as is obvious from salted Flesh. The Medicines of this Kind afford a very singular Relief.

As for mild oleous Remedies; it is certain, that the Skins of Animals become flaccid and pliant, when wet with Water, but are more rigid when dry'd, than they were before; but when they are impregnated with Oil, they remain soft for a long time, because Oil is of an adhesive Nature, and not soon dissipated. When the Fibres of the Intestines are so spasmodically constricted, as to excite the most violent Pains, by drinking a large Quantity of the softest Oils, and injecting Clysters of the same, the Stricture is remov'd, and the intestinal Fibres are relax'd.

In acute Diseases attended with an excessive Dryness, and when too great a Strength of the Solids is produced by the Disease; or when the Patient has often been in such a State before; those oleous Substances would be highly beneficial, if the increas'd Heat of the Body did not change these Oils, which easily become rancid, from a mild to a highly acrid Nature. In this Case, Decoctions prepar'd from those farinaceous Substances, enumerated from Boerhaave's *Materia Medica*, excellently supply the Place of Oils; for from all these, especially when dried, a pure and copious Oil may be extracted, by means of a Press, which is so united with the mucilaginous Part of the Decoctions, that it retains the whole emollient Quality of the Oil, without any Danger of becoming rancid.

When an Anchylosis arises from such an Hardness of the Ligaments, that they cannot be extended so as to allow the Bending of the Joints, the Rigidity is most successfully remov'd by duly rubbing all the Part affected with a Lixivium of Soap, so as to render it clean, and capable of perspiring freely. Then it is to be frequently, every Day, expos'd to the Steam of tepid Water; after which, the Part, when dried, is to be anointed with the most softening Oil, the rigid Ligaments are to be gently drawn, and the Joint bended; for too great a Distraction of the Fibres is one of the Causes of their Weakness: Hence, after these Measures are taken, it is highly beneficial to extend and lengthen the too rigid Parts.

When the Antients attempted to reduce extenuated Parts to their natural Situation, they stimulated and irritated these Parts so as to produce a gentle Inflammation and Swelling; for, by this means, the Humours, being convey'd with a greater Impetus, and a brisker Motion, to the Parts, distended the too rigid Vessels proportionably the more. By often repeating this Irritation, the too great Strength of the Vessels was so diminished, as to yield to the Humours, which, in order to their good State of Health, must necessarily flow into them. Thus Galen, in the third Chapter of his fifth Book *de Sanitate tuenda*, informs us, "that, by Frictions with pinguious Substances, he, in a few Days, restor'd the Flesh of many, who had been, for a long time, emaciated."

Hence Frictions with pinguious Substances are highly proper in these Cases, but only to such a Degree as to excite a slight

flight and gentle Redness of the Part; for when the Friction is violent, that which it attracts to the Part is discuss'd; but, in this Case, a large Distention of the too strong Vessels is requir'd. *Galen*, in the seventh Chapter of his seventh Book, *de Method. Medend.* gives this Caution, in the following Words: "When, says he, we intend to produce Flesh on any Part, we are by Friction to heat it, so as to render it tumid; but, when we intend to discuss and evacuate, this Friction and Heat are to be continued, till the tumid Part subsides." And, in the sixteenth Chapter of his fourteenth Book, *de Method. Medend.* he tells us, "That it was customary, with some, to strike emaciated Parts with slender Rods slightly anointed, till the Parts became moderately tumid." He, also, informs us, that, by such a Percussion repeated daily, or every other Day, together with a moderate Punction, the diminutive and extenuated Buttocks of Children were wonderfully enlarg'd.

Hence the Reason is obvious, why Friction, sometimes, produces opposite Effects; for a strong Friction with rough dry woollen Cloths, especially when impregnated with the Fumes of kindled Aromatics, cures too weak Fibres; whereas a gentle Friction with pinguious Substances, by attracting the Humours, and relaxing the Solids, softens too rigid Fibres.

Boerhaave, in his *Materies Medica*, specifies the subsequent aqueous, subfarinaceous, suboleous, soft, and emollient Substances, for the Case before us:

Water, boil'd with farinaceous or emollient Vegetables; yellow Mallows; the Root, Leaves, Flowers, and Seed, of Vervain Mallows, Ladies Mantle, Chickweed; the Flowers, Leaves, and Root, of Marshmallows, the Ox-eye Daisy, English Mercury, Brank-ursine, Comfrey, Bugle, the common Daisy, Hounds-tongue; the Leaves of Henbane; the Roots of white Lilies, Toadflax, Flax, Pile Trefoil, and Sweet Trefoil, common Mallows; the Flowers and Leaves of Melilot, French Mercury, Pellitory of the Wall; the Leaves and Buds of the Poplar, Self-heal, Lungwort; the Leaves and Flowers of Elder, Scabious, Solomon's-seal, Nightshade, Orpine, stinking Trefoil, Mullein, the Violet, Kidney-vetch, fresh Butter, Cream; the Fat of Birds, as of a Duck, a Goose, and a Capon; the Marrow of Beef; softening Oils, prepar'd of mild farinaceous Substances, such as the Oils of both bitter and sweet Almonds, Linseed-oil, Oleum Mucilaginum describ'd in the *Leyden Dispensatory*, Olive-oil, Palm-oil, Oil of white Poppies, Oil of Nightshade, Oil of white Trefoil, and Oil of Violets; Syrups, such as the Syrup of Marshmallows of *Fernelius*, Syrup of Borrage, Syrup of Maiden-hair, Syrup of Jujubs, Syrup of white and red Poppies, Syrup of Comfrey of *Fernelius*, and the Syrupus violaceus simplex, Honey of Mercury; Ointments, such as the compound Ointment of Marshmallows, the Golden Ointment, Basilicon, and Ointment of Poplar.

From these may be made proper Baths, Fomentations, Vapours, Ointments, Decoctions, Apozems, and Clysters; but the Hounds-tongue and Henbane are only safe for external Use.

Hence are understood the genuine Nature and most proper Cure of too great an Elasticity of the Fibres, which is generally the Concomitant and Effect of Rigidity.

We have already explain'd Rigidity, which always bears a direct Proportion to Elasticity; for it is scarce possible to find a Body so perfectly rigid, as to be incapable of being bent by any Force. Hence, as Elasticity depends on that Force, by which the constituent Parts of a Fibre cohere; and as this Force is greater in a rigid than in a lax Fibre; it is sufficiently obvious, that too great an Elasticity must always accompany too great Rigidity.

Soft Balls of Clay meeting each other in contrary Directions remain in a State of Rest; but, when bak'd in a Furnace, they become elastic, and recoil from each other with a Force which bears a compound Proportion to their Elasticity, and the impelling Cause.

From what has been said, we are, also, enabled to comprehend, why Children, Women, and those who are addicted to Ease, have lax Fibres; whereas Adults, Men, and such as use Exercise, have their Fibres, and, consequently, all their Solids, so rigid, that, upon a Solution of Continuity, their Parts are strongly retracted, and drawn from each other.

As for Children; we have already observ'd, that in them the Fibres and Vessels are not become callous; which afterwards happens by the natural Energy of the vital Motions.

As for Women; it is confirm'd, by anatomical Observations, that their Bodies are, all other Conditions remaining alike, far softer than those of Men. This Circumstance is the Result of our Creator's Pleasure; who, for wise Purposes, form'd the Body of Women in this Manner, capable of being distended without any considerable Inconvenience, that it might be the more capable of lodging and nourishing the Fœ-

tus, and have the menstruous Matter accumulated more commodiously. The lax State of Womens Bodies is, also, in a great measure, owing to their using less hardy and severe Exercises than Men.

As for those who indulge themselves in Ease; we have already shewn, that their Course of Life has a necessary Tendency to render their Fibres lax.

As for Adults; the longer a Man lives, the more often and forcibly the consolidating Force is applied to his Fibres; Hence, the Strength of his Fibres is increas'd, in proportion as he advances in Years. A Boy has all his Members flexible and pliant; whereas, in a decrepit old Man, they are stiff and rigid: Nor can any other Reason be given why this should happen in Men rather than in Women, all other Conditions being suppos'd equal, than that Almighty God, for the Purposes already mentioned, and, perhaps, more noble ones as yet unknown to us, intended this signal Difference in the original Make of his Creatures.

As for those who use Exercise; we have already observ'd, that Exercise contributes greatly to strengthen and corroborate too weak Fibres; for that which we call Tenacity or Cohesion of the solid Parts, is the Effect of the Continuation of Life. Now, the less of animal Motion a Person adds to the vital Motion, the more weak the solid Parts of his Body remain. He who does no kind of Work with his Hands, has them soft and tender; whereas he who labours strongly with them, has them hard and callous, and, at last, rigid and inflexible.

As for a Retraction of the Parts upon a Solution of Continuity; when a Solution of Continuity happens in any solid Part of the living Body, the Parts divided are retracted, and recede from each other; because that Force, by which the Elements of the Fibres cohere, necessarily retracts the Extremities of the Parts divided: The stronger, therefore, this Force is, a proportionably larger Gaping of the divided Parts will necessarily be produc'd. Hence Wounds, made in lax Bodies, immediately unite, and are consolidated; whereas, in rigid Bodies, they gape more, and are consolidated with greater Difficulty.

SIMPLE DISEASES OF THE LARGE AND SMALL VESSELS.

As the Diseases of the most minute Vessels proceed from the same Causes with those of the simple Fibres, by an Application, Intexture or Contortion of which, they are form'd, they must, of course, retain the same Nature, produce the same Effects, require the same Method of Cure, and be, in a great measure, understood from what has been already said.

Upon considering the Disorders of the Fibres, and, consequently, of all the solid Parts, which are made up of them, it sufficiently appears, of how simple a Nature all the Diseases incident to the Solids are.

As the Elements of the Fibres, mutually apply'd to each other, constitute a solid Fibre, so we may easily conceive, how the most minute Fibres may have all the Points of their contiguous Sides mutually applied to each other, in such a manner, as only to cohere longitudinally. If two such Fibres are mutually apply'd to each other in a parallel Direction, they constitute the smallest or most minute Membrane: If, on the contrary, a thousand of these Fibres are in the same manner apply'd to each other, they will form a Membrane, which is broader, but not thicker. Hence the most simple Membrane is conceiv'd to consist of Fibres longitudinally united to each other.

The Strength of the Fibres depends on the Cohesion of their constituent Elements; but all the Elements of a Fibre, which is a constituent Part of the most simple Membrane, cohere with the Elements of the two Fibres, which lie next, on each Side. Hence, the Strength of a Fibre, join'd to other Fibres on each Side, is doubly greater than that of a simple Fibre.

Hence the Strength of the Fibres is increas'd by their being join'd and united in the most simple Membrane; but the Fibres which terminate, or set Bounds to, the most simple Membrane, since they have only another contiguous Fibre on one Side, have, therefore, only half a greater Degree of Cohesion in their Elements, than a simple Fibre.

Since a Membrane consists of Fibres interwoven and contorted with each other, the greater the Number of Points, in which they touch one another, is, the Strength of the Fibres, which constitute such a Membrane, must be proportionally the greater.

Hence 'tis obvious, that the Part which constitutes the Margin of the most simple Membrane, is most easily separated from its Cohesion with the other Parts.

Now, if we conceive such a simple Membrane, wrapt up in the Form of a hollow Vessel, then every Fibre will be plac'd between two other Fibres, and, consequently, there can be no Margins or Edges; so that the Cohesion of all the Fibres, which constitute the most simple Membrane, wrapt up into a hollow Vessel, is doubly greater than that of a simple solid Fibre.

Hence we observe, that the Inhabitants of the hottest Climates, who have their Bodies highly constricted, are principally fond of Water, and aqueous Substances. 'Tis not to be wonder'd at, that Whey is here commended, since the Use of Milk was before order'd for corroborating too weak Fibres: For, in Whey, the subtile, spirituous, and caseous Parts are wanting, and the aqueous Part only remains, which is richly impregnated with the dissolving Quality of the Grass. For these Purposes, the best is Whey of Butter-milk, stript of all its pinguious Principles, and somewhat sour: Hence this Liquor is highly useful in all acute Diseases. To this Class belong all the Juices of perfectly ripe Summer-fruits.

The softest Pot-herbs. All these are enumerated in the *Materies Medica* of Boerhaave; and there is neither any great Taste nor Smell in any of them; but they yield an aqueous and highly emollient kind of Mucilage. Broths prepar'd from these are highly beneficial to Persons of this atrabiliarious Habit.

The Pot-herbs mention'd by Boerhaave are these;

Orache, Potatoes, Beets, Borrage, red Cabbage, Earth-nuts, Chervil; all the Kinds of Succory, Artichokes, Cucumbers, Dandelion, Endive; almost all Sorts of Lettuces, Parsnip, Purslain, Turneps; the Roots of Skirrets, the Roots of Vipers-grass, Spinage, the Roots of Goats-beard, small Valerian.

Boerhaave, in his *Materies Medica*, specifies the subsequent soft, aqueous Substances, which he recommends as proper in the Case before us:

Thin Decoctions of Bread, the Juices of ripe Summer-fruits, either crude, or boil'd with a little Water, and sweeten'd with Sugar; the Juice of Oranges, the Juice of Elderberries; all the Kinds of sweet Cherries, sweet Citrons full-ripe, Garden-cucumbers, Garden-gourds, Figs, Strawberries, ripe Pomegranates, Jujubs, sweet Lemons, Apricots, Melons, Mulberries, Peaches, Apples possess'd of a Sweetness together with a kind of Acidity, sweet Plums, red, white, and black Currants, Raspberries.

From these many Sorts of agreeable Aliments may be prepar'd by boiling, roasting, and other ways of Management.

A Decoction of Oats alone, drank daily in large Quantities, so impairs the strongest Man, as to render him entirely weak and languid. Country-people, also, have a Practice of rendering Swine lax and fat, only by Meal mixt with Water or Whey.

Many of the common People, who lead a sedentary Life, use no violent Exercise, and live constantly on these farinaceous Substances, have always highly lax Bodies.

Farinaceous Vegetables are these;

Sweet Almonds, Oats, Buck-wheat, Barley, Mays, Millet, Rice, Panic, Pistachios, Wheat, Rye, Speltwheat.

From all these, Decoctions, Cremors, and Panadas, may be made.

Diluted farinaceous Liquors. When Water is drank by Persons of constricted Bodies, in which the Humours are always compact and dense, it does not remain long in the Body, but is forthwith dissipated. 'Tis often to be lamented in acute Diseases, that the Water drank by the Patient is forthwith carried off, either by Urine or Sweats. But the farinaceous Substances mention'd in Boerhaave's *Materia Medica* as proper for this Purpose, when mixt with the Water, render it somewhat more viscid; by which means it is retain'd, and not so soon expel'd from the Body. This seems to be the Reason why Hippocrates, in his *Treatise de Ratione Viæ in Acutis*, condemns the drinking of Water in acute Disorders, whilst, in the same Book, he so warmly recommends the Use of Pissan. All these farinaceous Substances procure a kind of Viscidity to the Water, and, by their latent Oil, which is capable of being mixt with Water, and which may be express'd from them, soften all the Parts of the Body.

Unfermented Liquors. The same is true with respect to the Juices of the Summer-fruits; for spirituous fermented Liquors were justly class'd among the Remedies for a Weakness of the Fibres; for, by means of Fermentation, from all these are produc'd those spirituous Liquors, which, when reduc'd to their highest Perfection, like a Fire, as it were, parch all the Solids of the Body, and condense the Blood into irresoluble Masses.

By Rest. Muscular Motion is a principal Remedy in the Cure of too great a Weakness of the Fibres, 'tis not, therefore, to be wonder'd at, if Rest should produce the contrary Effect. Those who fatten Animals, keep them, as much as possible, from Motion, and feed them plentifully. Hence in acute Diseases, where all the Parts are render'd highly dry, the ancient Physicians order'd as much Rest as possible, especially in a somewhat cool and moist Air; for a cold and dry Air corroborates the Fibres.

But nothing more relaxes the Body, than the Warmth of the Bed, especially when the Patient indulges himself in Sleep; for in this Case the Patient is, as it were, in a Bath,

consisting of the Exhalations arising from his own Body: For this Reason, all Animals are somewhat larger after Sleep, than they were before. Hence Hippocrates, in his second Book *de Ratione Viæ*, affirms, "that long Sleeps, by the Heat they produce, colliquate the Flesh, relax the Body, and render it weaker."

And, in his *Treatise de Affectionibus*, he uses these Words: "In Disorders where Dryness is beneficial, 'tis highly conducive to sleep as little as possible: But in such as require Humidity, the Patients ought neither to want Aliments, nor Drink, nor to labour hard, but to sleep as much as they have a mind."

As for aqueous internal and external Remedies; the most considerable of these, and that which is the Basis of all the others, is Water, which, when warm, and rising in Steams, is capable of softening the hardest Parts of Animals to such a Degree as almost to dissolve them. In acute Diseases, where the Skin is often parch'd and dry, in consequence of a total Constriction of the exhaling Vessels, the Attempts to provoke Sweats by the hottest Medicines are fruitless and unsuccessful: Whereas, when the naked Body is expos'd to the Steams of tepid Water, the Mouths of the Vessels are relax'd, the Skin becomes moist, and soon after profuse Sweats appear. And, because in these Diseases the internal Parts are as dry as the Skin, Clysters of a like Nature are to be inject'd, and aqueous Decoctions prepar'd with farinaceous Substances to be exhibited, in order to soften the internal Parts. And when, by the long-continued Use of these aqueous Substances, the Body is weakened, the opposite Disorder, that is, a Dropsy, is often induced.

All these aqueous Remedies ought to be us'd tepid; because cold Substances condense and corroborate the Fibres, and too hot Substances coagulate the Blood, and burn the Solids to a gangrenous Crust.

All the Medicines of this Kind ought to be without Salt; because Salt indurates all the Parts of the Body, as is obvious from salted Flesh. The Medicines of this Kind afford a very singular Relief.

As for mild oleous Remedies; it is certain, that the Skins of Animals become flaccid and pliant, when wet with Water, but are more rigid when dry'd, than they were before; but when they are impregnated with Oil, they remain soft for a long time, because Oil is of an adhesive Nature, and not soon dissipated. When the Fibres of the Intestines are so spasmodically constricted, as to excite the most violent Pains, by drinking a large Quantity of the softest Oils, and injecting Clysters of the same, the Stricture is remov'd, and the intestinal Fibres are relax'd.

In acute Diseases attended with an excessive Dryness, and when too great a Strength of the Solids is produced by the Disease; or when the Patient has often been in such a State before; those oleous Substances would be highly beneficial, if the increas'd Heat of the Body did not change these Oils, which easily become rancid, from a mild to a highly acrid Nature. In this Case, Decoctions prepar'd from those farinaceous Substances, enumerated from Boerhaave's *Materia Medica*, excellently supply the Place of Oils; for from all these, especially when dried, a pure and copious Oil may be extracted, by means of a Press, which is so united with the mucilaginous Part of the Decoctions, that it retains the whole emollient Quality of the Oil, without any Danger of becoming rancid.

When an Anchylosis arises from such an Hardness of the Ligaments, that they cannot be extended so as to allow the Bending of the Joints, the Rigidity is most successfully remov'd by duly rubbing all the Part affected with a Lixivium of Soap, so as to render it clean, and capable of perspiring freely. Then it is to be frequently, every Day, expos'd to the Steam of tepid Water; after which, the Part, when dried, is to be anointed with the most softening Oil, the rigid Ligaments are to be gently drawn, and the Joint bended; for too great a Distraction of the Fibres is one of the Causes of their Weakness: Hence, after these Measures are taken, it is highly beneficial to extend and lengthen the too rigid Parts.

When the Antients attempted to reduce extenuated Parts to their natural Situation, they stimulated and irritated these Parts so as to produce a gentle Inflammation and Swelling; for, by this means, the Humours, being convey'd with a greater Impetus, and a brisker Motion, to the Parts, distended the too rigid Vessels proportionably the more. By often repeating this Irritation, the too great Strength of the Vessels was so diminished, as to yield to the Humours, which, in order to their good State of Health, must necessarily flow into them. Thus Galen, in the third Chapter of his fifth Book *de Sanitate tuenda*, informs us, "that, by Frictions with pinguious Substances, he, in a few Days, restor'd the Flesh of many, who had been, for a long time, emaciated."

Hence Frictions with pinguious Substances are highly proper in these Cases, but only to such a Degree as to excite a slight

flight and gentle Redness of the Part; for when the Friction is violent, that which it attracts to the Part is discuss'd; but, in this Case, a large Distention of the too strong Vessels is requir'd. *Galen*, in the seventh Chapter of his seventh Book, *de Method. Medend.* gives this Caution, in the following Words: "When, says he, we intend to produce Flesh on any Part, we are by Friction to heat it, so as to render it tumid; but, when we intend to discuss and evacuate, this Friction and Heat are to be continued, till the tumid Part subsides." And, in the sixteenth Chapter of his fourteenth Book, *de Method. Medend.* he tells us, "That it was customary, with some, to strike emaciated Parts with slender Rods slightly anointed, till the Parts became moderately tumid." He, also, informs us, that, by such a Percussion repeated daily, or every other Day, together with a moderate Punction, the diminutive and extenuated Buttocks of Children were wonderfully enlarg'd.

Hence the Reason is obvious, why Friction, sometimes, produces opposite Effects; for a strong Friction with rough dry woollen Cloths, especially when impregnated with the Fumes of kindled Aromatics, cures too weak Fibres; whereas a gentle Friction with pinguious Substances, by attracting the Humours, and relaxing the Solids, softens too rigid Fibres.

Boerhaave, in his *Materies Medica*, specifies the subsequent aqueous, subfarinaceous, suboleous, soft, and emollient Substances, for the Case before us:

Water, boil'd with farinaceous or emollient Vegetables; yellow Mallows; the Root, Leaves, Flowers, and Seed, of Vervain Mallows, Ladies Mantle, Chickweed; the Flowers, Leaves, and Root, of Marshmallows, the Ox-eye Daisy, English Mercury, Brank-urline, Comfrey, Bugle, the common Daisy, Hounds-tongue; the Leaves of Henbane; the Roots of white Lilies, Toadflax, Flax, Pile Trefoil, and Sweet Trefoil, common Mallows; the Flowers and Leaves of Melilot, French Mercury, Pellitory of the Wall; the Leaves and Buds of the Poplar, Self-heal, Lungwort; the Leaves and Flowers of Elder, Scabious, Solomon's-seal, Nightshade, Orpine, stinking Trefoil, Mullein, the Violet, Kidney-vetch, fresh Butter, Cream; the Fat of Birds, as of a Duck, a Goose, and a Capon; the Marrow of Beef; softening Oils, prepar'd of mild farinaceous Substances, such as the Oils of both bitter and sweet Almonds, Linseed-oil, Oleum Mucilaginum describ'd in the *Leyden Dispensatory*, Olive-oil, Palm-oil, Oil of white Poppies, Oil of Nightshade, Oil of white Trefoil, and Oil of Violets; Syrups, such as the Syrup of Marshmallows of *Fernelius*, Syrup of Borrage, Syrup of Maiden-hair, Syrup of Jujubs, Syrup of white and red Poppies, Syrup of Comfrey of *Fernelius*, and the Syrupus violaceus simplex, Honey of Mercury; Ointments, such as the compound Ointment of Marshmallows, the Golden Ointment, Basilicon, and Ointment of Poplar.

From these may be made proper Baths, Fomentations, Vapours, Ointments, Decoctions, Apozems, and Clysters; but the Hounds-tongue and Henbane are only safe for external Use.

Hence are understood the genuine Nature and most proper Cure of too great an Elasticity of the Fibres, which is generally the Concomitant and Effect of Rigidity.

We have already explain'd Rigidity, which always bears a direct Proportion to Elasticity; for it is scarce possible to find a Body so perfectly rigid, as to be incapable of being bent by any Force. Hence, as Elasticity depends on that Force, by which the constituent Parts of a Fibre cohere; and as this Force is greater in a rigid than in a lax Fibre; it is sufficiently obvious, that too great an Elasticity must always accompany too great Rigidity.

Soft Balls of Clay meeting each other in contrary Directions remain in a State of Rest; but, when bak'd in a Furnace, they become elastic, and recoil from each other with a Force which bears a compound Proportion to their Elasticity, and the impelling Cause.

From what has been said, we are, also, enabled to comprehend, why Children, Women, and those who are addicted to Ease, have lax Fibres; whereas Adults, Men, and such as use Exercise, have their Fibres, and, consequently, all their Solids, so rigid, that, upon a Solution of Continuity, their Parts are strongly retracted, and drawn from each other.

As for Children; we have already observ'd, that in them the Fibres and Vessels are not become callous; which afterwards happens by the natural Energy of the vital Motions.

As for Women; it is confirm'd, by anatomical Observations, that their Bodies are, all other Conditions remaining alike, far softer than those of Men. This Circumstance is the Result of our Creator's Pleasure; who, for wise Purposes, form'd the Body of Women in this Manner, capable of being distended without any considerable Inconvenience, that it might be the more capable of lodging and nourishing the Fœtus.

thus, and have the menstruous Matter accumulated more copiously. The lax State of Womens Bodies is, also, in a great measure, owing to their using less hardy and severe Exercises than Men.

As for those who indulge themselves in Ease; we have already shewn, that their Course of Life has a necessary Tendency to render their Fibres lax.

As for Adults; the longer a Man lives, the more often and forcibly the consolidating Force is applied to his Fibres: Hence, the Strength of his Fibres is increas'd, in proportion as he advances in Years. A Boy has all his Members flexible and pliant; whereas, in a decrepit old Man, they are stiff and rigid: Nor can any other Reason be given why this should happen in Men rather than in Women, all other Conditions being suppos'd equal, than that Almighty God, for the Purposes already mentioned, and, perhaps, more noble ones as yet unknown to us, intended this signal Difference in the original Make of his Creatures.

As for those who use Exercise; we have already observ'd, that Exercise contributes greatly to strengthen and corroborate too weak Fibres; for that which we call Tenacity or Cohesion of the solid Parts, is the Effect of the Continuation of Life. Now, the less of animal Motion a Person adds to the vital Motion, the more weak the solid Parts of his Body remain: He who does no kind of Work with his Hands, has them soft and tender; whereas he who labours strongly with them, has them hard and callous, and, at last, rigid and inflexible.

As for a Retraction of the Parts upon a Solution of Continuity; when a Solution of Continuity happens in any solid Part of the living Body, the Parts divided are retracted, and recede from each other; because that Force, by which the Elements of the Fibres cohere, necessarily retracts the Extremities of the Parts divided: The stronger, therefore, this Force is, a proportionably larger Gaping of the divided Parts will necessarily be produc'd. Hence Wounds, made in lax Bodies, immediately unite, and are consolidated; whereas, in rigid Bodies, they gape more, and are consolidated with greater Difficulty.

SIMPLE DISEASES OF THE LARGE AND SMALL VESSELS.

As the Diseases of the most minute Vessels proceed from the same Causes with those of the simple Fibres, by an Application, Intexture or Contortion of which, they are form'd, they must, of course, retain the same Nature, produce the same Effects, require the same Method of Cure, and be, in a great measure, understood from what has been already said.

Upon considering the Disorders of the Fibres, and, consequently, of all the solid Parts, which are made up of them, it sufficiently appears, of how simple a Nature all the Diseases incident to the Solids are.

As the Elements of the Fibres, mutually apply'd to each other, constitute a solid Fibre, so we may easily conceive, how the most minute Fibres may have all the Points of their contiguous Sides mutually applied to each other, in such a manner, as only to cohere longitudinally. If two such Fibres are mutually apply'd to each other in a parallel Direction, they constitute the smallest or most minute Membrane: If, on the contrary, a thousand of these Fibres are in the same manner apply'd to each other, they will form a Membrane, which is broader, but not thicker. Hence the most simple Membrane is conceiv'd to consist of Fibres longitudinally united to each other.

The Strength of the Fibres depends on the Cohesion of their constituent Elements; but all the Elements of a Fibre, which is a constituent Part of the most simple Membrane, cohere with the Elements of the two Fibres, which lie next, on each Side. Hence, the Strength of a Fibre, join'd to other Fibres on each Side, is doubly greater than that of a simple Fibre.

Hence the Strength of the Fibres is increas'd by their being join'd and united in the most simple Membrane; but the Fibres which terminate, or set Bounds to, the most simple Membrane, since they have only another contiguous Fibre on one Side, have, therefore, only half a greater Degree of Cohesion in their Elements, than a simple Fibre.

Since a Membrane consists of Fibres interwoven and contorted with each other, the greater the Number of Points, in which they touch one another, is, the Strength of the Fibres, which constitute such a Membrane, must be proportionally the greater.

Hence 'tis obvious, that the Part which constitutes the Margin of the most simple Membrane, is most easily separated from its Cohesion with the other Parts.

Now, if we conceive such a simple Membrane, wrapt up in the Form of a hollow Vessel, then every Fibre will be plac'd between two other Fibres, and, consequently, there can be no Margins or Edges; so that the Cohesion of all the Fibres, which constitute the most simple Membrane, wrapt up into a hollow Vessel, is doubly greater than that of a simple solid Fibre.

The Vessel, which consists of such a simple Membrane, thus wrapt up, is call'd the smallest, or most minute Vessel.

All the Diseases of such a minute Vessel depend either on the too great or too small Force, by which the Elements of each Fibre cohere with each other, and with those of the adjacent Fibres. But of these Diseases we have already treated.

The larger Vessels, compos'd of the smallest, united to each other by Application, Intertexture, or Contortion, are subject to Disorders of two Kinds; the former of which depends on the Diseases of the smallest Canals, which constitute these larger Vessels; so that their Origin, Nature, Effects, and Cure, are to be understood from what has been already said; but the other kind of Disorders, to which the larger Vessels are subject, depends, first, on the Degree of Force, by which the Fluid, moving through them, presses their Sides in extending them; which Sides, since they consist of other smaller Canals, are by this Pressure depriv'd of their Fluids, united as to their Sides, and grow together in the Form of a solid, but thick and gross, Fibre. This same Misfortune may be convey'd to the adjacent small Vessels. Secondly, the Diseases of the latter Kind, incident to the larger Vessels, depend on the Concretion of the Fluid, with its proper containing Vessel.

As simple Fibres, longitudinally united, constitute a Membrane, so we may easily conceive, that the smallest Vessels, form'd of the most simple Membrane, wrapt up, may be mutually apply'd to each other, and form a Membrane, which, being up and wrapt up, will form a Vessel, not of the smallest Kind, but larger, and not consisting of Fibres, but of the smallest Vessels in their stead.

As the Section of these minute Vessels, in a Direction perpendicular to their respective Axes, constitutes a Circle, the Circles of the Vessels adjacent to each other can only touch one another in a Point. Hence the adjacent Vessels will only touch each other by a Line, that is, by the most simple Fibre. In those Places of Contact, therefore, the Strength of such a Membrane, compos'd of the smallest Vessels instead of Fibres, will be also increas'd.

The smallest Vessel, then, consists of Fibres united into a Membrane. The Vessel next to this in Bulk is that whose Membrane consists of the smallest Vessels instead of Fibres. The next Vessel, or the last except two, with respect to Simplicity, is not, like the last but one, made up of the smallest Vessels, but of them, and the next in Bulk, and so forward, till we arrive at the largest Vessels, which are made up of all the different Series of Vessels found in the human Body.

The Aorta, which is the largest of the Vessels, is, by Injections, demonstrat'd to consist of Membranes compounded of smaller Vessels, which are, nevertheless, pretty large. The Membranes of these Vessels, which constitute the Membranes of the Aorta, consist still of other, but smaller Vessels, and so forwards, till we arrive at the last Series of Vessels. *Ruyfch* has ingeniously shewn, that those Membranes, which, in former Ages, were look'd upon as absolutely simple and solid, consist of an incredible Number of small Vessels.

Hence, by the Multiplicity of Concretions in the Sides, the Strength of the larger Vessels is continually augmented; and thus we begin to comprehend, on what Circumstances the Strength and Firmness of the human Body depend.

If we inquire what Disorders are incident to the larger Vessels, not with respect to the Fluids they contain, but when consider'd as solid Vessels, 'tis sufficiently obvious, that they are subject to all the Diseases of the smallest Vessels, of which they are compos'd. But of these we have already treated.

The latter kind of Disorders, incident to the larger Vessels, depends, first, on the Degree of Force by which the Fluid, moving through them, presses their Sides in lengthening them.

When the Aorta is distended by the Blood forc'd from the Left Ventricle of the Heart, the Canals, which constitute its Membranes, are, by that means, compress'd; but, when the Action of the Heart ceases, the Aorta, contracting itself, frees these Canals from their Compression. But since, at every Moment, the minute Vessels, which constitute the Membranes of the larger Vessels, are thus compress'd, they begin gradually to be depriv'd of their Fluids, that Time for a farther Influx is scarce allow'd; then their Sides grow together, their Cavities are destroy'd, and, by that means, a strong and thick Membrane is form'd; for the Cohesion of a Membrane, wrapt up in the Form of a Vessel, is doubly greater than the Cohesion of a simple Fibre; but, when the Sides of the flatten'd Vessel grow together, the opposite Fibres must of course do the same; and the Cohesion of a Membrane, thus form'd by the Concretion of the Sides of a flatten'd Vessel, will become still greater than it was before.

The greater, therefore, the Force of the Heart is, and the longer this Force has continu'd to act, the fewer the Vessels must be, but the stronger the Solids. Hence, in extreme old Age, the Strength of the Solids becomes incredible; and, at last, when the too strong Resistance of the Vessels suffers them to be no longer distended by the impel'd Fluids, a Cessation of all the Functions ensues; and a calm and gentle Death, for this Reason, generally happens in extreme old Age. Hence, also, Animals, accusom'd to too hard Labour, are soon loaded with the Grievances of old Age, because all their Vessels are render'd callous before the due Time.

Those Quacks are, therefore, justly to be ridicul'd, who impudently boast, that they can prevent Wrinkles, and the other more formidable Disadvantages attending Old-age, by a few Drops of some wonderful Elixir, daily us'd; since all the Vessels becoming callous by the inevitable Effects of good Health, we must, of course, gradually approach the fatal dreaded Period which puts an End to Life.

Certainly more just and rational were the Measures of the celebrated *Medea*, who, by Baths, cherish'd old and decay'd Bodies; for which Reason she is, by the antient Poets, said to have restor'd Youth to old Persons.

Secondly, the latter kind of Disorders, incident to the larger Vessels, depends upon the Concretion of the Fluid, with its proper containing Vessel.

When the contain'd Fluid is depriv'd of its most subtle and liquid Parts, it at last grows to the Vessel in which it before mov'd. It has, in all Ages, been observ'd, that in those Degrees, in which, to use the Language of the Antients, the *Calidum innatum*, or innate Heat, prevail'd over the *Humidum radicale*, or radical Moisture, or, as the Moderns express themselves, where the Force of the Vessels exceeds that of the distending Fluids, the Blood assumes such a Nature as to form itself into a Pellicle, which can scarcely be cut by a Razor. Certainly the Fluids of the human Body are possess'd of a plastic Disposition; and it is as certain, that the Aliments we take into the Body are not render'd similar to our Humours, till they have acquir'd such a Nature. *Ruyfch*, in *Theaur.* 6. N. 7. and *Theaur.* 7. No. 39. informs us, that by only agitating his own Blood with the Twig of an *African* Plant, he reduced it to a thick coherent Membrane.

Hence we may easily conceive, that the Blood, already too much inclin'd to Concretion, by its inflammatory State in acute Diseases, may, if its fluid Parts are still farther dissipat'd by the Force of the Disease, grow to its containing Vessels.

But we have a satisfactory Proof, that even the larger Vessels are capable of growing to the Fluids, which before circulated in them; for the large Canal, which, during the Stay of the Fœtus in the Uterus of the Mother, convey'd the Blood from the Placenta to the Liver, is afterwards concreted, not into a flat Canal, which it must have been, if it had been concreted by the collapsing of its Sides only, but into a kind of round and solid Chord; which is an irrefragable Argument, that it is concreted with its contain'd Fluid.

The Strength, therefore, of the larger Vessels is produc'd by three Causes; first, the Strength of the Fibres; secondly, the collapsing of the Vessels, or their Compression and Concretion into Membranes; and, thirdly, the Concretion of the Vessels with their contain'd Fluids.

Hence the Weakness, Laxity, Strength, Rigidity, and Elasticity of the Vessels, concerning which the Ignorant and Unskillful advance so many Absurdities, may be clearly understood.

All these Conditions of the Vessels are already explain'd; and therefore, only here enumerated, in order to exhibit a summary View of the important Circumstances which depend more or less upon a due Acquaintance with the Nature and Properties of a simple Fibre.

RELAXATION OF THE VISCERA.

The Weakness of the Vessels and Viscera is such a Cohesion of their constituent Parts as may be remov'd by so slight a Motion, that they are incapable of duly performing the several Functions requisite for the Purposes of Life and Motion.

The Viscera are generally defin'd, Organical Parts of the Body, which so change the Humours convey'd thro' them, as to render them conducive to Life and Health. Thus the Lungs form an Organ receiving all the Blood, and inducing such a Change in it, as to render it fit for passing through all the Vessels of the Body. Thus, also, the Heart receives all the Blood, changes the Direction of its Motion, and promotes its Mix-
ture,

ture. The same holds true with respect to all the other Viscera.

Now 'tis certain from anatomical Injections, that all the Viscera consist of numberless Vessels, which in different Viscera are dispos'd in various Orders, and that upon these Vessels the Action of the Viscera, by which they change the Humours convey'd to them, depends. If therefore these Vessels are weaker than they ought to be for the Purposes of Health, they will act proportionably less upon their contain'd Fluids, and consequently change them less than is required. Thus too weak Lungs cannot change the Chyle into good Blood: Thus, also, if the Vessels of the Liver are too much relax'd, the Blood will pass and repass through that Organ, without the Secretion of the Bile, and a Dropsy will consequently be produc'd. When the Action of the Stomach is too faint and languid, the whole Business of Chylification is surprisngly disorder'd.

These Functions of the Viscera, requisite for Life and Health, vary according to the Age or Sex of the Individual.

As for the Age; all the Viscera have their Strength gradually increas'd, in proportion to the Time the vital Powers have acted upon them. Hence all the Parts are originally so weak, as to be almost dissolv'd; but they gradually become firmer, till in extreme old Age they are render'd almost rigid. Now between this greatest Weakness, and the greatest Firmness of the Parts, there is almost an infinite Number of intermediate Degrees in the several Periods of human Life.

As for the Sex; the Author of Nature has subjected Man to a Necessity of gaining his Bread by the Sweat of his Brow; whereas he has appointed a different Task for Woman, that is, to conceive, bring forth, and nourish, her Offspring. This Appointment, also, prevails among those Nations, who regulate their Conduct rather by the Suggestions of Nature, than the Tenor of positive Laws. Hence different Degrees of Strength were requisite for the distinct Purposes of the different Sexes.

This Weakness arises, first, from the Weakness of the Fibres, and the Causes producing it. Secondly, from the Weakness of the most minute Vessels, and the Causes producing it. Thirdly, from the languid State of the Fluids moving thro' the larger Vessels, which depends upon a Diminution of their Quantity, an Augmentation of their aqueous Parts, and a languid muscular Motion. And, fourthly, from the large Number of minute Canals remaining too long in proportion to the Age of the Person.

As to the Weakness of the Fibres, and that of the most minute Canals; these have been already explain'd: And,

As for the languid State of the Fluids moving through the larger Vessels; the whole Action of all the several Viscera depends on this, that the Fluids, impel'd by the Force of the Heart, dilate the Arteries, which, reacting by their Strength and Elasticity, should promote, or carry forward, the distending Humours: But all those Bodies, which, under the same Bulk, contain a large Quantity of Matter, that is, which are more solid, retain the Degree of Motion communicated to them, longer.

In the Fluids, therefore, mov'd by the Force of the Heart, a certain Degree of Solidity was requisite, that they might not too soon lose the Degree of Motion impress'd. Where this due Solidity is wanting, the Humours are said to be languid: But this Solidity is procur'd to the constituent Parts by the Efficacy of the Vessels thro' which they move: Now this Efficacy is no more than that Force by which the distended Vessels re-act upon the distending Fluids. Whilst, therefore, the Quantity of the Fluids being too much diminish'd, the Vessels are not sufficiently distended, their Reaction must of course be the less: Hence all the Vessels are languid and weak. For this Reason, also, when by Wounds, or any other Cause, a great Quantity of the Fluids is discharg'd, a solid red Blood is not form'd from the Substances us'd as Aliments, but all the Fluids become thin like Water.

As for the Increase of the aqueous Parts of the Fluids; some Physicians were of Opinion, that the Body was in the most perfect and advantageous State, when all its Fluids were thinness; in consequence of which, they thought they would pass the more expeditiously thro' all the Vessels. But the human Body is made and contriv'd according to other Laws. Fluids of a proportional Thickness correspond to the different Series of Vessels; for, if our Blood was as thin as Water, it would slip thro' the open Orifices of the exhaling Vessels, plac'd both in the internal and external Surface of the Body; or all the Cavities of the Body would be fill'd with Humours too thin, but which would there stagnate; for the red and most thick Part of the

Blood, in a State of Health, always remaining in the largest, that is, the red Veins and Arteries, receives the Momentum, or Quantity of Motion, necessary to Life and Health, from two moving Causes, the Heart and Arteries, and communicates this Momentum to the other Parts of the Blood. From the Attrition of this red Part of the Blood, on the Vessels which contain it, arises the Heat of the human Body; for when this red Part begins to be deficient, all the Parts become cold. Leucophlegmatic Patients, and Girls languishing under the Green-sickness, are sufficient Proofs of this.

For this Reason, the bountiful and indulgent Author of Nature has plac'd large red Vessels round the medullary Substance of the Brain collected into the Medulla oblongata, that these highly minute Vessels, in which all Attrition is wanting, might be cherish'd by a gentle Heat; so that, among the Causes of the Weakness of the Viscera, we may justly reckon the aqueous State of the Humours. The Blood springing from the Veins of a robust Man is immediately concreted into a coherent scissile Mass; whilst the Blood discharg'd from a weak and sickly Girl is but faintly red, thin, difficultly concreted, and abounding with Water.

As for the Weakness of muscular Motion; this has been already consider'd, in the Beginning of this Article.

As for the large Number of minute Canals; 'tis certain, that in every Diversity of Age, there is a certain Callosity and Abolition of some Vessels requisite. Anatomists observe, that Injections are most successfully made upon young Subjects: Thus we see, that, in Process of Time, many Vessels are abolish'd.

The Gland called Thymus, so conspicuous in new-born Infants, so decreases in Adults, as hardly to leave any Traces of itself. A Woman, who abounding with Milk, has successively suckled a considerable Number of Children, when she becomes superannuated and stiff, has only flaccid Pellicles, which scarcely deserve the Name of Breasts. The Glands dispers'd in the Mesentery are totally abolish'd in Persons advanc'd in Years.

Great Strength is added to the Body, when many minute Vessels are so concreted, as to be form'd into strong Membranes. But this Concretion arises from the brisk Motion with which the Fluids are convey'd thro' the larger Vessels: The brisker, therefore, this Motion is, and the longer it has continued to act, the more the Parts of the Body are consolidated. Hence, in new-born Infants there is a large Number of Canals, but the Compages of the Body is highly lax; whereas in adult Persons many of the Vessels are destroy'd, and the Texture of the Body by that means render'd firmer.

From this Weakness, produc'd by its peculiar Causes, arise many Disorders, falsely ascrib'd to Temperament, or accounted hereditary. The most considerable of these Disorders are, first, a too easy Dilatation and Tumors of the Vessels, their too easy Compression and Inanition, and the Stagnation of the Fluid contain'd in them; an increas'd Resistance made to the Heart, Crudities of the Fluids, spontaneous Corruption, an Incapacity for performing the vital, animal, and natural Functions. And all the Consequences of these, which, as they are infinite in Number, so they are with Difficulty cur'd, and highly productive of other Disorders, especially a Cachexia, and a Cacoehymia. Secondly, an easy Dissolution of the Vessels by external or internal Causes, arising either from Acrimony or Motion; the Effusion, Stagnation, Corruption, or Evacuation of the Fluid necessary to Life and Health; An Interception of the Motion of the Fluids thro' the ruptur'd Vessels; the Corruption of those Parts which were kept in a sound State by this Motion; and other Disorders of various Nature, such as a Phthisis, an Empyema, a Dropsy, and an Atrophy.

'Tis here suppos'd, that a Body, before sound, has Viscera and Vessels too weak; in which Case the Injuries of the chang'd Functions appear very conspicuously, especially those enumerated in this Paragraph.

As every Individual has a State of Health peculiar to himself, and as different Bodies seem to vary from each other, both with respect to the Solids and Fluids, though each may, at the same time, be in a sound Condition; this Peculiarity of Constitutions, by which they differ from other sound Bodies, is call'd Idiosyncrasy; and the Disorders arising from this Peculiarity are, sometimes, accounted incurable, because they are thought to be present from the very first Formation of the Body. But we cannot always ascribe those Diseases of weak Vessels and Viscera to a known Peculiarity of Constitution.

A Girl, sprung from an illustrious Family, delicately brought up, and enur'd to Idleness, has her Body rendered tender, languid, and weak; whilst a Country Girl, seemingly of the same State of Health in the first Months of her Life, gradually acquires a robust and strong Constitution, by being accustomed to Labour from her Infancy.

The Weakness of the former, and the Diseases arising from it, are therefore falsely accounted hereditary.

When the most robust and vigorous Man loses most of his Blood by a Wound, he becomes dropical; and in this Case a very great Change is induc'd in what is vulgarly call'd the Temperament.

As for the too easy Dilatation and Tumors of the Vessels; the Manner in which the several Viscera prepare their respective Humours, has been canvass'd from the very Infancy of Medicine to our own Times; but Authors have advanced nothing satisfactory on this Subject, till Mr. *Raysch* demonstrated, that, at the Terminations of the Arteries every-where in the Viscera, there was a peculiar Conformation in various Parts; and it seems, that each Bowel has been form'd with a particular Design of preserving this Conformation of the Arteries. Now, if in any Bowel the Arteries should be too much dilated, as the same Force of the impel'd Fluid continues to distend the less resisting Sides of the Vessels, weak Viscera will not prepare such Humours as are generated in a State of Health, but such as are of a peccant Quality, and disturb the whole Body. Thus, when the Structure of the Liver is chang'd, Bile is not prepar'd, but a peccant Liquor of quite different Qualities. Thus also, when the Vessels of the Kidneys are relax'd, they transmit Blood instead of Urine.

The Vessels, when too much dilated, produce a Tumor either of the whole Body, or some particular Part; for Persons of weak Vessels and Viscera have their Faces inflated, their Cheeks tumid, and their whole Bodies œdematous. Hence, when this Disorder begins gradually to advance, the deluded Patients often rejoice at the Addition made to their Habit.

As for the easy Compression and Inanition of the Vessels; the Vessels of a sound and robust Man, left to themselves, are so contracted, as to diminish the Diameters of their respective Cavities; but they do not become flaccid, and collaps'd, but even strongly resist a preternatural Contraction. Any Impression remains on the Legs of dropical Patients, but in sound and robust Persons, the Part press'd rises again.

As for the Stagnation of the Fluids; almost the whole Force of the Heart is spent in dilating the Arteries. Now, if the weaken'd Arteries, distended by the Blood, impel'd by the Force of the Heart, do not contract themselves sufficiently, the Blood will remain unmov'd in the dilated Vessels; for two Causes concur to produce the Motion of the Fluids thro' the Vessels: The Force of the Heart distending the Vessels by the impel'd Blood, and the contractile Force of the Vessels, which, when the Action of the Heart ceases, propels the Blood impel'd from the Heart. When, therefore, this contractile Force is wanting, the Fluids become stagnant.

As to the increas'd Resistance made to the Heart; this may perhaps appear surprising, since the weaken'd Vessels yield more easily to the Blood impel'd from the Heart. But, as the weaken'd Arteries are not contracted by a sufficiently strong systaltic Motion, they remain distended and full. Hence, the Moment after, the Heart cannot so easily discharge its Contents into Vessels already too full and distended. We daily observe, that People of pale and tumid Habits of Body are pretty easy whilst in a State of Rest; but, upon the least Motion, they breathe short, their Hearts palpitate, their jugular Veins become tumid, and they themselves are almost suffocated; for, whilst in a State of Rest, a small Quantity of venous Blood, slowly mov'd, is convey'd to the Heart, and easily express'd from it; but the Velocity of the venous Blood being augmented by the Motion of the Body, the Heart is not so soon able to force the Blood receiv'd thro' the full Vessels.

As for the Crudity of the Fluids; every thing we take by way of Aliment, is crude, because, not being as yet corrected by the vital Force, it is of a Nature quite different from the human Fluids: But when the Viscera are weaken'd, their peculiar Powers, by which they contribute to change the Aliments into our Natures, are destroy'd; for, in order to a due and laudable Chylification, it is requisite, that all the chylipoietic Organs should furnish the other Parts with the Humours prepar'd by them. 'Tis therefore requisite they should elaborate such Humours: If, therefore, they are weaken'd, they will furnish peccant Humours degenerating from their native and genuine Qualities. Hence the whole Business of Chylification will be disturb'd. Thus the weak Body of a Girl, labouring under a Chlorosis, from the best Aliments, does not prepare a laudable Blood, but a kind of pale Humour, resembling a large Quantity of Milk mix'd with a little Blood. Hence arise surprising Depravations of the Fluids, and various Diseases depending on them. All the Viscera contribute their particular Share in changing the Aliments to our Natures. If, therefore, one or more of these should be weaken'd, this Assimilation is defective, and a quite different Fluid produc'd. Hence *Galen*, in the sixth Chapter of the seventh Book of his *Method. Medendi*, justly gives us this Caution; that in restoring weak Patients, we ought to consider, "that the Aliments are not, without Assistance, concocted, distributed to the various Parts of the

"Body, nor assimilated with the Parts of the Person to be nourished."

As for the spontaneous Corruption of the Fluids; the Aliments taken into the human Body are chang'd and assimilated to our Natures, by the several Actions of all the Vessels and Viscera; and this Change is call'd *πέψις*, or Concoction. But if the Aliments are of so tenacious a Nature, or the Strength so impair'd, that the latter cannot subdue the former, then these Substances are indeed chang'd in the Body, but not assimilated to our Natures; but, retaining their own Natures, and being, as it were, digested in a hot and moist Place, degenerate into an acid, or putrid, and rancid Corruption: And this is call'd spontaneous Corruption. This will be render'd more obvious, by an Instance: The hard and robust Viscera of labouring Men prepare a laudable Blood from Rye-bread. But this Bread, with the Addition of Water, when digested in a chymical Vessel, with a Heat equal to that of the human Body, is converted into the worst of Acids. Robust Viscera subdue this acescent Quality. But, if the same Bread is us'd by weak Girls, it retains its Nature, and, by its acescent Quality, produces Cardialgias and Gripes. This Degeneracy does not happen in the Body precisely in the same manner as out of it; the Aliments, however, unless the assimilating Power of the Body is sufficiently strong, always tend to a spontaneous Change.

As for an Incapacity for the vital, animal, and natural Actions; all the Actions of the human Body, in a certain Sense, depend on muscular Motion; for the Heart and Arteries, the universal moving Causes of all the Humours, are muscular. But these Actions can only be perform'd when there are good and laudable Spirits; now the Preparation of the Spirits requires the highest and most perfect Assimilation.

Whilst, therefore, the too weak Viscera cannot bring the Aliments to the highest Degree of Elaboration, the highly subtle Spirits, on which almost all the Functions of the Body depend, begin to prove defective. Hence, when a tender Girl begins to languish under a Chlorosis, she is gradually seiz'd with an unusual Torpor, a surprising Lassitude upon the smallest Motion, a Vertigo, and a Dulness of all the Senses; all which indicate, that the animal Faculty is injur'd. A Palpitation of the Heart upon the slightest Motion, a soft and weak Pulse, and a difficult Respiration, shew that the vital Actions are weak and faint. A languid and surprisingly deprav'd Appetite, an uneasy Sensation, created by Aliments taken, frequent Costiveness, together with pale and crude Urine, indicate that the natural Functions are deprav'd.

Hence it is obvious, that from this Source an almost infinite Number of Disorders may arise; since by this means all the Functions of the Body may be injur'd. Hence, also, the Difficulty of Cure, in Cases of this Nature, is sufficiently obvious; for the defective Strength of all the Parts must be restor'd: But this cannot be done, unless so much of the original Nature of the Body remains, that, being freed from Impediments, and its Defects supply'd, it may be able, from the Aliments, to prepare and elaborate a laudable Blood. Hence, when the Lungs or Liver are wasted by a Consumption, a Cure is in vain either promis'd by the Physician, or expected by the Patient. But, from this Incapacity for performing the animal, vital, and natural Actions, arises principally a Cachexy, which is a bad Habit of Body, accompanied with such a Weakness, that the Nutrition is deprav'd and injur'd thro' the whole Parts of the Body at one and the same time. This Disorder is produc'd when all the Fluids and Solids recede from the Conditions requisite for a due Assimilation of the Aliments to our Natures. Now every Cachexy is necessarily attended with a Cacoehymy, which is a Receding of all the Humours from the Conditions requisite to Health. But the Humours of the human Body receive their Qualities from the Force and Action of the Vessels and Viscera. If therefore the latter are too weak, the former must necessarily degenerate, and become deprav'd.

As for the easy Dissolution of the Vessels; such a Cohesion of the solid Parts, which constitute the Canals of the human Body, is requisite, that they may, without suffering a Solution of Continuity, sustain the Force of the Fluids impel'd from the Heart. When, therefore, this Cohesion is weaken'd, a Rupture of the Vessels is to be dreaded from an increas'd Impetus of the impel'd Fluid. Hence it so often happens, that tender Men, who have arriv'd at their full Growth, and who, either in consequence of an original Taint, or their Bodies not being sufficiently strengthened by muscular Motion, have too weak Vessels, have an Artery ruptur'd in their Lungs, by Bawling, Singing, or Running; and thus either die under a Vomiting of Blood, or, afterwards, pine away under a slow Phthisis. Thus, also, it frequently happens, that Persons, the Vessels of whose Kidneys are weak, discharge Blood instead of Urine, by being drawn over rugged and stony Places in Conches.

Besides, it has been already observ'd, that, when the Viscera are weak, the Humours degenerate into a spontaneous Corruption, and, consequently, always become more acrid; for,

in a State of Health, the Humours are of so mild a Quality, that the Blood, when dropt into the Eye, creates no manner of Pain : When, therefore, acrid Humours flow through the weaken'd Vessels, the latter are easily dissolv'd by the former. This is sufficiently obvious from a Scurvy, in which the Laxity of the whole Body frequently concurs with the Acrimony of the Humours. Hence, the Vessels being ruptur'd, the Blood is discharg'd under the Skin, and produces scorbutic Spots.

When the Vessels are thus corroded by an acrid Fluid, or ruptur'd by the too violent Impetus of the moving Fluid, their contain'd Humours are discharg'd, and become stagnant, because the moving Cause ceases; and, in consequence of their Stagnation, they become corrupted, tho' this happens later when the Air has no Access to them. When the ruptur'd Vessels gape, the Fluids are discharg'd from them, and the Circulation of the Humours is discontinu'd. Thus all the several Functions, depending on the Circulation of the Fluids thro' sound Vessels, are destroy'd. Hence, since these Accidents may happen in various Parts of the Body, they may give Rise to an infinite Number of Disorders, which cannot be easily enumerated, but may be reduc'd to certain Classes. The Principal of these Disorders are,

Phthisis; tho' this Disorder takes its Name from a *Greek* Word importing Corruption, yet Physicians do not by it understand every Species of Corruption, but a Consumption of the whole Habit, arising from the Prevalence of a purulent Cacoehymy, in whatever Part of the Body the Fomes is lodg'd. When the too weak Vessels are either corroded, or ruptur'd, the discharg'd Humours are corrupted, and by their Acrimony inflame all the adjacent Parts. Thus Blood discharg'd in the Cavity of the Thorax becomes putrid, and inflames the adjacent Lungs. After this Inflammation, a true Suppuration ensuing destroys the Patient by a pulmonary Consumption. Thus we may understand, how from the same Cause an *Empyema* may arise; which tho', in an extensive Sense, it denotes every Species of Suppuration, yet, for the most part, it only imports a Collection of Pus, in the Cavity of the Thorax.

As for a Dropsy; all Patients, on whom this Disorder gradually steals, labour under Weakness of the Vessels and Viscera; and almost every Dropsy, not arising from some other violent and previous Disorder, acknowledges this for its Cause, for the exhaling Arteries discharge their contain'd Humours into all the large and small Cavities of the Body. But it is to be observ'd, that the Force by which the minute Orifices of the Veins imbibe the discharg'd Humours from the Cavities of the Body, increases and decreases in proportion to the Briskness of the Circulation. Hence, in acute Disorders, where the Circulation is too brisk, all the Parts are render'd dry, whereas, in languid chronical Diseases, the Humours, being gradually accumulated, render all the Parts tumid. Besides, in Disorders accompanied with the highest Languor, the evacuating Power of the Artery seems to continue longer than the absorbent Force of the Vein. Hence in every Disposition of Body, where the vital Vigour is impair'd, aqueous Parts begin to be accumulated.

As for an Atrophy; tho' at first this Disorder may appear of a Nature quite opposite to a Dropsy, yet, when the Abdomen is immensely turgid in that Species of the Disease, which is call'd *Ascites*, we observe that all the superior Parts are extenuated. Nor is this to be wonder'd at, since all the Viscera, being too weak, each of them cannot contribute its proper Share, in bringing about the last and highest Elaboration of the Aliments, by which they are chang'd into our Natures, and what is lost, restor'd; for Life itself will, in the very Nature of the Thing, destroy the Body, unless it is recruited by the Aliments. Nutrition may, therefore, prove defective from this single Cause; and this Defect is called an Atrophy.

The Physician who accurately adverts to these Circumstances, will know the Origin, Presence, and Events, not only of this, but, also, of an infinite Number of other dark and obscure Disorders; and be capable of discovering the most safe and efficacious Means of Relief.

Whoever attentively considers what has been already said, must necessarily conclude, that all the Functions of the Body may be injur'd by the Weakness of the Action of the Vessels on their contain'd Fluids; because the Soundness of all the Functions depends on the due Action of the Solids on the Fluids, and of the Fluids on the Solids; so that the want of this Action is the genuine Source, from which an infinite Number of Disorders arises. But when the Effects of Diseases arising from Weakness are obvious to the Senses, there is no manner of Difficulty in discovering the Cause; but frequently the most latent and obscure Disorders draw their Origin from this Cause. When a Patient, in consequence of a Rupture of the too weak Vessels of the Lungs, throws up a florid scarlet-colour'd Blood, a previous Weakness is easily discover'd to be the Cause of the Disorder. But if the like Arteries, being ruptur'd in the Brain, should,

by the Effusion of the Blood, produce a mortal Apoplexy, the latent Cause of so terrible a Misfortune is precisely the same with that of the former. When the Vessels of the Liver are ruptur'd, and discharge their Humours, these Humours, stagnating, become corrupted, inflame all the adjacent Parts, and at last destroy the Patient, after having consum'd his whole Liver, and expos'd him to the most terrible Calamities. The first Spring and Origin of this Disease is the same, as in the former Cases. This holds equally true in all the other Viscera.

There is not a more just or important Maxim in Medicine, than that, in the Cure of Diseases, a due Regard ought always to be had to the first Cause, from which all the Symptoms proceed; for, from this Foundation alone, infallible and efficacious Medicines may be discover'd. They who by Purgatives attempt to evacuate the Waters of a Dropsy, arising from Weakness, are, a few Days after, surpris'd to find all the Parts as much tumid with Water, as before, since all the Fluids are convey'd into the flaccid Vessels, whilst scarcely any Part of the Liquors drank is carried off either by Sweat, or a Diaphoresis, and very little by Urine; whilst the Physician who has duly investigated the Cause of the Disorder, goes more prudently to Work, and, after removing the distending morbid Fluids, orders the relax'd Body to be swath'd with proper Bandage; and by drying Aliments, Corroboratives, and due Exercise, destroys the first Cause and Spring, from which all the Symptoms of the Disorder flow'd.

But, in the Application of these Remedies, the present Weakness of the Patient calls for a slow Administration, since a sudden Change is in no Case more dangerous than in this.

The judicious *Hippocrates*, in the fifty-first Aphorism of his second Section, justly observes, "That it is most safe to carry on an Intention by little and little, especially when a Change, from one Extreme to another, is to be promoted." This Maxim, is, in a particular manner, to be observ'd in the Cure of weak Vessels and Viscera; for if in this Case the Physician should by stimulating Medicines, or muscular Motion, imprudently accelerate the Circulation of the Humour, through the Vessels, the too weak Vessels and Viscera, not being able to sustain the increas'd Force, are often ruptur'd, and the Patient shamefully kill'd, instead of being judiciously cur'd.

The Physician, who by violent Exercise should attempt the speedy Cure of spitting of Blood arising from a Weakness of the Lungs, would act a most absurd and ridiculous Part; because, by accelerating the Impetus of the Blood, the Wound, as yet not consolidated, would again be broke open. Hence, in Cases of this Nature, great Caution, and a prudent Slowness of Measures, are absolutely necessary.

These Remedies are, therefore, to be slowly and cautiously exhibited from the first to the last Stage of the Disorder; and when, by their means, the Vessels are corroborated, strong muscular Motion is to be us'd, till from every Circumstance it is obvious, that the Vessels and Viscera are render'd sufficiently compact, solid, and callous.

Without repeating what has been said concerning the Cure of weak Fibres, we shall only observe, that it is of the highest Importance, that all these Measures should be gradually increas'd and augmented, till Health is perfectly restor'd. If the Intention is to cure Disorders of this kind by muscular Motion, the Patient must begin with the slightest and most gentle Degree of it, which is to be cautiously and gradually increas'd. The Physician, in the mean time, must carefully advert to the Effects produc'd by this Motion in the Body of the Patient. A Person dropsical from the Weakness of the Vessels alone, would be suffocated by using violent Motion all of a sudden. But when the distending Waters are previously remov'd, and the relax'd Parts secur'd by Swathing, gently heating Medicines are to be exhibited, and afterwards such as are more powerful. Then gentle Motion is to be prescrib'd and gradually augmented to severe Exercise. Thus the relax'd Body is intalibly strengthen'd, and the Force of the Disease overcome.

But 'tis not sufficient to have remov'd the Disease; we must, also, destroy and root out those Causes, which we foresee will necessarily occasion a Relapse; for, when a Physician has evacuated the Waters of a dropsical Patient, he has only render'd the Body such as it was before it spontaneously became dropsical; so that in this Case he only performs a Part of his Duty, unless after this Evacuation he corroborates the relaxed Parts.

That Viscera, before too weak, are render'd sufficiently firm and strong, may be known from the following Signs: If there is an equable Heat, like that in a State of perfect Health, diffus'd over all the Body; for, when the Viscera are weak, there is a Defect of Heat; if, upon drinking, neither the Whole of the Body, nor any Parts of it, are render'd tumid; but especially if the Colour is lively and red, in those Parts where the Vessels appear conspicuous without any Covering of the Skin, such as the

the Lips, the Tongue, the Fauces, the Gums, and the Corners of the Eyes; for from these Signs we may safely conclude, that all the Viscera and Vessels are sufficiently strong.

When the Cure is brought thus far, no farther Corroboration is requir'd; otherwise the opposite Fault, that is, too great a Rigidity, would be induced. But the Body is to be kept in the Degree of Strength already acquir'd; and all those Things are to be carefully avoided, which are enumerated as the Causes of too great a Weakness; for, unless these Measures are taken, the Disease will soon recur. Hence Relapses so frequently happen to Girls cur'd of a Chlorosis, because they will not abstain from supping warm Liquors, and chuse rather to lose restor'd Health by Idleness, than to preserve it by due Exercise. Thus they create a great deal of Uneasiness to the Physician, and, at last, render their Diseases incurable.

Hence it is evident, that the various Doctrines, relating to the Qualities of Aliments, are of a relative Nature, that is, in some Cases true, and in others false; that muscular Motion corroborates the Fibres; that the Exercises of Gestation resolve the coagulated Fluids, and strengthen the relax'd Solids, without dissipating the Strength; that, in the most robust Persons, the Blood is highly dense, viscid, and mild; whereas in tender Habits it is dissolv'd, light, and acrid; that an infinite Number of Diseases, apparently widely different, often proceed from the same Cause, and are remov'd when that is taken away.

As for the Qualities of Aliments; Authors who have wrote professedly on this Subject, have never advanc'd any thing which was absolutely true in all Cases; because the Qualities of Aliments depend, not on the Aliments alone, but, in a more particular manner, on the Body into which they are taken, as has been already observ'd. Thus, whole Nations live, sound and healthy, on Vegetables and Water alone; others, on Fish and Water only; and others, taught by Luxury, on the various Parts of Animals, and a Mixture of all the Substances which the Earth produces, whether spontaneously, or by Culture; and yet all, or, at least, most Part, live sufficiently healthy: Nor does the vast Variety of Aliments produce a very considerable Difference; for the human Body is possess'd of such a Faculty, that, by the Concurrence of the Actions of all the Vessels and Viscera, human Blood, the same, almost, with respect to all its Qualities, is produced from Aliments of quite different Natures. But, according to the various Degrees of Strength in the Vessels and Viscera, Aliments of the same Nature may prove either hurtful or beneficial. Fleshes, salted and dried in Smoak, together with coarse Bread, agree with the robust Viscera of a hardy Labourer, whose Strength would fail, if he was fed on Flesh-broths; these, on the contrary, agree best with weak and tender Constitutions, which would be highly injur'd by Fleshes and Aliments of such an hard and difficult Digestion. Thus *Hippocrates*, in his *Treatise de Affect.* advises, "That those who are capable of digesting a large Quantity of Aliments, are not to be fed with Sorbitions, because they pass off the Stomach too soon; but those, on the contrary, who are not capable of digesting large Quantities of Aliments, are to be nourish'd with Substances of a sordid Nature." No Aliment can, therefore, be pronounc'd universally and absolutely salubrious: And the Man who asks, what particular Aliment is universally wholesome, acts just as ridiculous a Part, as he who should ask, whether he had a fair Wind, when he did not know the particular Port to which he was to steer.

As for muscular Motion; this Subject has been already consider'd; only we shall observe, that, by an Excess of muscular Motion alone, a Rigidity of the Vessels, which is directly opposite to their Weakness, may be produc'd. Thus, there is a surprising Difference between the Flesh of a Stall-fed Ox, and that of the same Animal, which, by dragging the Plow, and hard Labour, has all its Parts dry and juiceless.

As for the Exercises of Gestation; muscular Motion strengthens, but, at the same time, fatigues the Body, and dissipates the Spirits in the same Proportion as it recruits them; for this Reason, very weak Patients can never be restor'd and cur'd by its means. Hence, for weak Patients, Gestations, especially of the mild and gentle Kind, are to be substituted in the room of muscular Motion: Thus, the Patients, sitting on a Rope, are to be gently mov'd backwards and forwards. See *Hieronymus Mercurialis*, in his *Treatise de Arte Gymnastica*. This Step is to be succeeded by Gestations in Coaches; which, again, is to be follow'd by gentle Gestations in Coaches on smooth Ground; then they may be driven in Chariots, on ordinary Roads; and, lastly, let such Patients get on Horseback, and strengthen their Bodies by gradually increasing the Pace of the Horse. Thus the most stubborn Disorders are often happily cur'd, and almost all the Advantages of muscular Motion obtain'd, without a Dissipation of the Strength. All these Measures are beneficial

for three Reasons: First, because the pendulous Viscera, agitated by these Concussions, are strengthen'd, and the Concrections resolv'd, partly by the Concussions, and partly by the increas'd Strength of the Vessels and Viscera. Secondly, because, by these means, the Fæces remaining after the last Digestion are eliminated from the Primæ Viæ, in those who want a due Degree of Strength in these Viscera: Hence these Exercises are most beneficial an Hour or two before Meals. And, thirdly, because, by this means, the Force and Efficacy of the Air on the Lungs is increas'd, and the circumambient Atmosphere, which is soon render'd tepid by the Heat of the Body, is continually renew'd; but this Advantage is, in a particular manner, obtain'd by Riding.

As for the Density and Viscidity of the Blood in robust Persons; we call that Blood dense, which, in any given Quantity, is of the greatest specific Gravity; but this Circumstance depends on the Pressure of the Vessels. All the Aliments we take, as, also, the Chyle and Milk prepar'd from them, are lighter than the Blood. Blood extravasated, and set at Liberty from the Compression of the Vessels, becomes lighter than it was when contain'd in them: The compact and solid State of the Blood is, therefore, the greater, the more strong and consolidated the Vessels acting upon it are. Hence, in acute Diseases, in which the Action of the Vessels on their Contents is too strong, the Blood becomes more heavy and dense than it was before. Blood issuing from a Vein, or a Wound, in strong Men, is thick and black: Thus *Homer*, when, in the seventh Book of his *Iliad*, he represents *Ajax* as having wounded *Hector*, says, μέλαν δ' ἀνέκικλεν αἷμα, *blackish Blood sprung from the Wound of Hector*; and elsewhere, in the same Book, he informs us, that the Blood of Heroes is black, τῶν ὄντων αἷμα μελαίνεν. But, in this Species of Blood, there is always a certain Lensor, in consequence of which, it is forthwith concreted into a solid Mass. This is always true, with respect to the arterial Blood of robust Persons; and, after violent Exercise, or in acute inflammatory Diseases, the venous Blood is, forthwith, concreted almost in the same manner. This Blood is, at the same time, of such a Quality, that, if dropt into the Eye, it produces no manner of Pain; so mild is sound Blood, which contains something of a gently saltish Nature, but so highly diluted, that it does not, by its Acrimony, offend the Parts of the most acute Sensation; for all those Parts, which would, in time, become acrid in the Body, are eliminated by Stool, Urine, and Sweat.

As for the Dissolution of the Blood in tender Constitutions; the Blood of a sound Man is not, without the greatest Difficulty, subjected to a statical Examination; because it is forthwith concreted, and is rarefied as soon as it is free from the Compression of the Vessels. That *Mr. Boyle*, however, might have some, though, as he himself confesses, in his History of human Blood, not an accurate Knowledge of this Affair, he put a certain Quantity of sound human Blood in an oblong Phial: When it had stood at Rest till the Bubbles disappear'd, he mark'd its Height on the Glass with a Diamond: Then, washing out the Blood, he fill'd the same Phial, to the same Height, with Water; then, by weighing, he found that the sound Blood was about a twenty-fifth Part specifically heavier than the Water. But, from what has been already said, it is obvious, that, by the Force of the Vessels and Viscera, a Blood is prepar'd from the Aliments, which is more solid, and, consequently, more heavy, than the Aliments themselves. Hence, since in weak Constitutions this Force is languid, the Blood is, of course, less consolidated; and, consequently, being more dissolv'd, and light, it, at last, degenerates to a Thinness equal to that of Water. This is sufficiently confirm'd by the Instances of Dropsies arising from a weak and infirm State alone.

But, generally, a thin State of the Blood is accompanied with a proportionable Degree of Acrimony. On this Account, Persons of tender Habits are readily subject to Corrosions of the weak Vessels. Hence arise Spitting of Blood, acrid and saline Catarrhs, together with the other Disorders to which such Persons are subject.

As for the infinite Number of apparently different Diseases arising from the same common Cause; so long as the human Fluids move through Canals, whose Diameters are proportion'd to these Fluids, and each Series of decreasing Fluids is carried through its respective Vessels, all the Functions of the Viscera and Vessels remain sound and entire. But when the weak Vessels, too much distended by the impel'd Fluids, admit foreign and improper Fluids, all the Functions are disturb'd. Hence an infinite Number of Disorders may draw their Origin from this simple and uniform Cause; and all the Disorders arising from this Source may be remov'd, by restoring the Strength of the Vessels. One Instance will be sufficient to illustrate this Affair. Naturally the Tunica adnata of the Eye contains no red Blood in its Vessels; but, when it is relax'd by any Cause, the red Blood enters these Vessels, remains there, and produces an Ophthalmia; which, at first, is often curable by the Application of cold Water, because the Vessels, constricted by the Cold, repel the red Blood, which

which had enter'd; whereas, in such a Case, emollient and relaxing Applications often increase the Disorder.

Hence it appears, of how great Importance the due Consideration of such a simple Disorder is, since it opens a Way for the Knowledge and Cure of a great many others, which, though they draw their Origin from the same Cause, are, yet, highly intricate and perplexing to the Ignorant and Unskilful.

From the same Considerations we draw both the Knowledge and the Cure of too great a Laxity of the Vessels and Viscera.

Since Laxity is a Species of Weakness, what has been advanced on that Head, is applicable to this.

DISORDERS OF THE VISCERA, ARISING FROM TOO MUCH STRICTURE, OR RIGIDITY.

The too great Rigidity of the Vessels and Viscera is such a Cohesion of their component Parts, as does not yield to that Motion which ought to move and change them, that those Functions, which, in a State of Health and Life, flow'd from this changeable State of the Vessels and Viscera, may be duly perform'd.

In every Period of Life, the Vessels of the human Body undergo a Change, since they never remain two Moments of the same Bulk, but are sometimes distended by the Force of the Fluid impel'd from the Heart; and, immediately after, have their Diameters diminish'd by their natural Force. Such a Cohesion, therefore, of the constituent Parts of the Vessels is requisite, as that they may be capable of yielding: And where this Cohesion is so great, as not to yield sufficiently, the Vessels and Viscera are said to be too rigid.

What the Viscera are, we have already explain'd; and, on the same Occasion, observ'd, that all the Viscera produce their respective Effects by the Structure of those Vessels, of which they consist; but all the Vessels only act on their contain'd Fluids in so far as they are contracted, and endeavour to diminish and lessen their Diameters; and, when they are contracted to their smallest Diameter, then this Force ceases to act till the Vessels are again distended by the impel'd Fluids. Such a Flexibility is, therefore, requir'd in the Vessels, as they may yield, and be expanded by the impel'd Liquids, and again contract themselves, when the impelling Force ceases to act.

It is, besides, requisite, that in all the Viscera which secrete the Liquors, prepar'd in their Structure, through Emunctories, the most minute secretory Ducts should have a certain determin'd Bulk, lest they should let those Parts pass which ought to be retain'd, or retain those which ought to be secreted. Upon the just Bulk and Proportion, therefore, of these secretory Ducts, Life and Health entirely depend.

In different Viscera of the Body various Degrees of Flexibility are requisite in the Vessels; for, certainly, a far greater Degree of Flexibility is requisite in the small Arteries dispers'd through the cortical Substance of the Brain, than in the secretory Vessels of the Kidneys. Hence, in this Case, nothing general can be determin'd; but our several Positions must be limited by the various Conditions and Purposes requisite to a sound State of Health.

This Rigidity of the Vessels and Viscera arises, first, from every Cause which renders the Fibres too rigid. Secondly, but more especially, from an highly compact State of the Fibres with each other, produced by the strong Force of the propel'd Fluids. Thirdly, from an Union and Conjunction of the minute Canals, depriv'd of their Fluids by strong Pressure, with which the vital arterial Fluid presses the Sides of the larger Canal; and the most considerable Cause, contributing to the Production of this Effect, is strong and violent muscular Motion. Fourthly, from a Concretion of the Vessels into one Solid, with its proper contain'd Fluid, becoming stagnant, dry, and coagulated.

1. *As for the Causes productive of too great a Rigidity of the Fibres; we have already consider'd them.*

2. *With respect to the compact State of the Fibres, mutually and strongly applied to each other, by the Force of the propel'd vital Fluid; though in the Fluids there are Parts fit for restoring the Elements worn away and lost by the Actions necessary for Health, yet, as we before observ'd, 'tis requisite there should, by the Impulse of the vital Fluid, be a due Application of these Parts to proper Places, and, as it were, an Appression of them to other Elements; and the stronger this Application or Appression is, the more firm will the Structure of the Fibre, thus produc'd or restor'd, be. Now, the same Force which mutually unites the Elements of the Fibres, forcibly compresses,*

and produces a strong Cohesion in the Fibres form'd by these Elements.

3. *As for the Union and Conjunction of the small Canals; this may, in some measure, be understood from what has been already said: For the largest Canals have their Membranes form'd of the most minute Canals, which, by the Force of the Heart, are far less distended than those which are larger, on which the whole Force and Strength of the Heart act, as it were, with an immediate Impetus. Hence, when the large Canals are distended, the minute Vessels, constituting the Membranes of these Canals, are render'd flat, and become impervious; in consequence of which, they grow together, and the Strength is, by that Circumstance, augmented. Now, strong muscular Motion, by conveying the venous Blood with greater Velocity to the Heart, increases its Action. Hence a greater Impetus, especially on the larger Vessels, and all the other Circumstances enumerated, are produc'd.*

4. *As for a Concretion of the Vessels with their contain'd Fluids; this has been before explain'd.*

When there is a Rigidity of the Vessels; first, it produces Effects similar to those arising from a Rigidity of the Fibres. Secondly, it produces a strong Effort in the Vessels, by which the Fibres endeavour to apply themselves to the Axis of the several Canals they compose; to lessen their respective Cavities; to press, compress, repel, and expel, their contain'd Fluids; and thus to resist their Motion from the Heart, and, consequently, the Heart itself; to become scarcely capable of Dilatation, and thus to interrupt the equable Motion of the Blood, and, consequently, of all the Secretions; to diminish the Quantity of the Blood, which would otherwise be expel'd from the Heart, at one Pulsation; to prevent the perfect Evacuation of the Heart, and, by that means, produce polypose Concretions of Blood; by compressing the Fluids, and divesting them of their most subtle Parts, to condense them too much, and, by that means, to produce Suffocations and Death. Thirdly, this Rigidity of the Vessels makes them gape very much when wounded, in consequence of the great Force with which they are retracted into the Parts which sustain them; and this same Rigidity, when the Vessels are cut entirely through, either lessens, or entirely shuts up, their Extremities.

1. *As to the Effects of too rigid Fibres; these have been already consider'd.*

2. *As to the strong Effort of the Vessels, by which the Fibres endeavour to apply themselves to the Axis of their respective Canals; in a conical Canal, a Right Line, drawn from the Apex to the Centre of the Base, is call'd its Axis.*

When the flexible Canals of the human Body are distended by the impel'd Fluids, they are in a State of Violence; and the longitudinal Fibres, distended in the Form of an Arch, endeavour to restore themselves to their former Length; whereas the distracted orbicular Fibres endeavour to return to smaller Diameters. By both these Actions, the Sides of the Canal approach more nearly to its Axis; and this Attempt of the distended Fibres to restore themselves is the only Action of the Canals of the human Body: The firmer, therefore, the Structure is, and the greater the Elasticity of these Sides, the stronger this Effort is, as is sufficiently obvious.

But, whilst the Sides of the Canal approach its Axis, its Cavity is necessarily diminish'd, and, consequently, the contain'd Fluid press'd upon; and since this Fluid can neither be soon express'd from the converging Extremities of the Arteries, nor forc'd back to the Heart, in consequence of the Resistance made by the Valves of the Aorta, 'tis, for this Reason, compress'd, repress'd, and condens'd; for every porous and flexible Body is compress'd into so much the smaller Bulk, the stronger the compressing Force is. This seems to be the Reason why the Chyle, and Milk, which are always lighter than Blood, being, by the repeated Actions of our Vessels, compress'd, are, at last, chang'd to solid and compact Blood.

But all the fresh Fluids which enter the human Body, whether by Aliments and Drink, or by the bibulous Vessels dispers'd over all the Surface of the Body, always enter by the Veins, which, being easily dilated, admit them all. But after these Fluids have enter'd the Arteries, if the Strength of these latter is increas'd above what is conducive to Health, the former will be forthwith dissipated from the Body. Hence we understand, why lean robust Men often eat twice as much as fat and idle Persons; and yet do not become corpulent, though their Discharges by Stool are very small in Quantity: In such Persons as these, the Fluids drank first enter the lacteal Veins, then the Vena Cava, and the Right Ventricle of the Heart; but, in the Arteries of the Lungs, and afterwards by means of the whole arterial System, they are so attenuated, that they are capable of being dissipated, and carry'd off through the small exhaling Vessels of the Body.

As for the Resistance made to the Motion of the Fluids from the Heart, and, consequently, to the Heart itself; 'tis to be observ'd, that, though an additional Strength is communicated to the Arteries, a too great Resistance is not, on that account, forthwith made to the Heart, since the Force of the Heart is increas'd in proportion to the additional Strength imparted to the Arteries: For the Influx of the venous Blood into the Cavities of the Heart, the Passage of the arterial Blood through the Substance of the Heart, and the Influx of the Spirits into its muscular and villous Fibres, are the Causes on which its muscular Motion depends. But when, the Aorta strongly contracts itself, it, with a proportionably greater Celerity, forces the Blood through the coronary Arteries into the Substance of the Heart, and, at the same time, with greater Force, applies the Blood through the carotid and vertebral Arteries to the Brain and Cerebellum. Hence a larger Secretion of Spirits is produc'd. It also accelerates the Motion of the Blood from the Arteries to the Veins; and, by thus increasing the Motion of the venous Blood, irritates and stimulates the Heart to a brisker Action. All the Causes, therefore, of the muscular Motion of the Heart are increas'd by an additional Strength of the Arteries.

So long as this Equilibrium remains, the highest and most speedy Conversion of the Aliments into a State suited to our Nature happens, and the Blood is render'd solid, in such a Degree only, as not to be detrimental to Health. But when the Strength of the Arteries is so increas'd, as to be scarcely capable of Dilatation, then all the Misfortunes above-mention'd are produc'd; for, when the Arteries are not dilated, they cannot afterwards be contracted: But the Contraction of the Arteries is the principal Cause which produces the Motion of the Blood through the Veins; for the Action of the Heart does little more than dilate the Arteries, and convey to them, when thus dilated, the Blood contain'd in its Cavities. Immediately after, the Arteries, contracting themselves, propel the Blood convey'd to them. This evidently appears upon wounding a large Artery; on which Occasion, the Blood is not discharg'd with a continu'd and uniform Impetus, but, as it were, by starts, and far more slowly, when the Heart, in consequence of its Contraction, dilates the Arteries, than when the Arteries are contracted, and the Heart is what we call in its Diastole.

When, therefore, by whatever Cause, the Vessels are render'd so rigid, that they are not capable of being dilated at all, or, at least, not sufficiently, then the Force of the Heart is not able to expel the Blood contain'd in its Cavities; and, being irritated by an uncommon kind of Tensimus, endeavours, by various Pulsations, to do that which it could not do by one Contraction. Hence Palpitations of the Heart, and an interrupted Pulse, are so frequently observ'd in extreme old Age; for, in long-liv'd Persons, the larger Vessels about the Heart have sometimes been found cartilaginous, or even of a bony Contexture, as we learn from medicinal Observations. Now, when the Motion of the Heart is disturb'd, all the Functions of the Body are proportionably disorder'd, since it is the Source and Spring of all Motion: Hence none of the Excretions and Secretions remain the same they were before. But, when the Blood begins to remain in the Cavities, the Sinuses and the Auricles of the Heart, polypose Concretions are form'd. This Species of Disorder, which takes its Name from a Fish, that fixes itself by a great Number of Filaments to adjacent Bodies, is no less frequent, than it is latent and obdurate. *Malpighi*, in his Treatise *de Polypo Cordis*, was almost the first who gave us any distinct Account of the Origin of polypose Concretions of the Heart, and larger Vessels; for the Blood of a sound Man, taken from the Vein, immediately becomes viscid, and begins to form a concreted Mass, which separates from itself the more thin and yellow Part of the Blood. This Mass is gradually more and more concreted, and floats in the more liquid Part express'd from it. Then the concreted Part, when wash'd with pure Water, becomes white, appears fibrous, and, when cut, exhibits small Cellulæ, full of reddish Ichor.

The Experiment of *Ruyseh*, before-mentioned, shews us, how such a Concretion, when beginning to be produc'd, draws Parts similar to its own, from the remaining Mass of Blood; and, by an Union of these, forms a Species of Membrane.

The Blood, therefore, of a sound Man, as is obvious from these Experiments of *Malpighi* and *Ruyseh*, consists of such Parts as repel each other; but the vital Motion keeps them mix'd with each other: Hence, as soon as the Blood of the soundest Person remains at Rest, for some time, in the large Vessels; or, moving too slowly, is too copiously accumulated in the distended Vessels; it is dispos'd to a kind of slaky Concretion, and the Flakes thus produc'd are mutually concreted, assimilated, and attract to themselves similar Parts; and thus produce small polypose Masses, which, by a Continuation of the same Causes, are often increas'd to an enormous Bulk, and

grow to the Vessels, the Columnæ of the Heart, and its Auricles, as we find from Dissections.

In Animals whose Throats are cut, and almost all the Blood discharg'd, there only remains about the Right Ventricle of the Heart a small Quantity of Blood, form'd into oblong polypose Concretions. Hence the Reason appears, why, after great Losses of Blood, polypose Concretions are often form'd about the larger Vessels, which, afterwards, induce very terrible Disorders. Thus *Boerhaave* informs us, that he saw a Woman, who in a Miscarriage lost so large a Quantity of Blood, that she was laid out for dead: She afterwards, however, came to Life, and remain'd pretty easy, so long as she continued in a State of perfect Rest; but, upon her using the slightest Motion, she was forthwith seiz'd with an intolerable Uneasiness, a sudden Prostration of Strength, and an insupportable Difficulty of Breathing, till, at last, a more easy State was restor'd by Rest; and, in this Condition, she kept her Bed for ten Years. The same Circumstance seems to have happen'd to this Woman, which happens to Animals whose Throats are cut, that is, polypose Concretions suffer'd the Blood to pass when slowly mov'd, but stop it when the Motion was too brisk.

This Circumstance evidently appears in Syncope; for, when Life returns to those who have been seiz'd with this Misfortune, they sigh, and breathe with Difficulty. The polypose Flakes of concreted Blood are stop'd in the pulmonary Artery, which, from a large Cavity, is distributed into various minute Ramifications. By the Contraction of the Heart and pulmonary Artery, the Effort to Respiration being in this Case always increas'd, these Flakes are carried backwards and forwards, and sometimes dissolv'd: But they who are frequently subject to Syncope, in consequence of a Polypus already form'd, are, thro' the whole remaining Course of their Lives, subject to Palpitations of the Heart.

This Disorder would be highly familiar to delicate young Women, who upon any violent Commotion of Mind, forthwith fall into a Syncope, unless the State of their Blood had a Fault opposite to that which produces polypose Concretions; for in those whose Strength is vigorous, and whose Principle of Life brisk and active, the Blood is possess'd of a stronger Tendency to Concretion: Hence it requires an equable and perpetual Motion to prevent this Misfortune.

But, from these polypose Concretions, whether in the Cavities of the Heart, or in the Vessels, arise so anomalous, and, often, so terrible Symptoms, that they have unjustly been ascrib'd to Causes apparently of more Importance.

In a confirm'd Polypus, small Hopes of a Cure are left. Many Medicines are highly extol'd for this Purpose, but scarce any of them prove effectual. Our whole Hopes are plac'd in rendering the Blood as thin as possible, and, consequently, as little prone to Concretion; that is, let a Cacoehymy, arising from a too much diluted Blood, be artificially brought on, that thus the Polypus may not be enlarg'd by the Addition of fresh Matter, but the Blood kept thin and diluted by a continual Attrition of its Parts.

As for the Gaping of wounded Vessels; if there was no contractile Force in the solid Parts of the human Body, the Aperture of an inflicted Wound would be no larger than the Thickness of the wounding Instrument. But we observe, that Wounds inflicted by the sharpest Razors soon after gape; for that Force, by which the solid Parts mutually cohere, retracts both their Extremities: The stronger, therefore, this Force is, the more the divided Parts will recede from each other. When, therefore, the Vessels are entirely divided, this same Force will retract their Extremities, and conceal them under other Parts. Thus, in this Case, Hæmorrhages are more easily stop'd in robust strong Persons, than in such as are weak and tender; because the contractile Force of the orbicular Fibres in the Arteries of robust Persons is proportionably stronger than in those who are weak and delicate.

From an accurate Consideration of what has been said, we may clearly know a past, a present, and a future Rigidity, Elasticity, and Force of the Vessels, together with the Effects they do or afterwards will produce; as, also, the most proper Methods of Cure.

We have already explain'd the Method of investigating the Diagnostic of a present Disease; the Anamnesis, or Judgment, on one that is past; and the Prognosis, with respect to one which is future, and the Effects subsequent to it; as, also, the most proper Intentions of Cure.

The Cure in Cases of this Nature is obtain'd, first, by such Remedies as are proper for the Cure of too rigid Fibres. Secondly, but more especially by such as diminish the Quantity, the Density, and the Compression of the vital Fluids. Thirdly, by such Things as suspend muscular Motion. And, fourthly, by such Substances as are of a moistening,

ing, lenitive, emollient, diluting, resolvent, and abstergent Nature.

1. *As for the Remedies proper for the Cure of too rigid Fibres*; these are already treated of.

2. *As for such Remedies as lessen the Quantity of the vital Fluids*; in the Cure of a too rigid State of the Fibres, the Solids are only consider'd; whereas, in curing too great a Rigidity of the Vessels and Viscera, a due Regard is to be had at once to the Solids and the Fluids. Among the Causes of too rigid Viscera, we have already specify'd the violent Force of the propel'd vital Fluids, mutually compacting the Fibres to each other: Now the vital Fluid is that which is expel'd from the Heart, and again returns to it. But, during Life, the more of this vital Fluid is taken away; the less the Action and Attrition of the solid Parts will be upon their contain'd Fluids; that is, the Briskness of the Circulation is diminish'd: For, when the Quantity of the vital Fluid is diminish'd, the same Quantity cannot be return'd to the Heart, which was before convey'd thither. But the Influx of the Blood convey'd thro' the Veins into the Cavities of the Heart is justly reckon'd among the Causes exciting its Motion, as we have before observ'd: The Strength, therefore, and Velocity of the muscular Motion of the Heart will be, by this means, diminish'd. This is sufficiently obvious from Venesection, which, in acute Diseases, so checks the exorbitant Force of the vital Circulation, that all the Symptoms begin to remit, and become languid: And, in acute continual Fevers, this Evacuation, continued so long as to bring on a Deliquium, provided the Patients have a sufficient Degree of Strength, frequently removes the Disorder almost instantaneously; so that, when Galen cur'd a violent Fever in this manner, he was address'd by one of the By-standers, in the following complimentary, but, at the same time, nervous and pathetic Strain: *O venerable Man, thou hast murder'd the Fever.*

Among the antient Physicians there were various Disputes with respect to the most proper Manner of removing the Redundance of the Blood in some Disorders: The most simple and similar to Nature, who often cures Diseases by Hæmorrhages, seem'd to be Venesection. But the Favourers of *Erasistratus* condemn'd this Method, and maintain'd, that the superfluous Blood might be remov'd by Abstinence, which they order'd to be protracted for three Days: The celebrated *Διατριβὴ δασύη* was discarded by *Hippocrates*, in his Treatise *de Ratione Viæ in Acutis*. And Galen wrote a whole Book *de Venesectione adversus Erasistratæos*, in order to confute this absurd Method, which was afterwards unfortunately reviv'd by some of the Chymists.

For, whilst by Abstinence they attempt to diminish the Fluids, their most subtle Parts are dissipated; the gross Humours more condens'd in the large Vessels, and the whole Mass of Fluids dispos'd to a putrid Acrimony. But Venesection takes away the thickest Part of the human Fluids, that is, the red Blood, and, by that means, prepares the way for diluting Substances.

As for the Density of the Fluids; the Density of the Blood in a sound Person always surpasses that of Water; and, when the Blood begins to degenerate into an aqueous Thinness, all the Strength is lost, as we learn from dropical Patients. When, therefore, the Vessels and Viscera are too strong, after a Depletion of the Veins, and an Evacuation of the most dense Part of the Blood by Venesection, aqueous Liquors are to be exhibited, such as Whey, Barley-water, and other Liquors in which Water predominates; so that the Vessels, being fill'd with these, may be weaken'd, and, as it were, a Disposition to a Dropsy brought on. In acute Diseases, *Hippocrates*, in the Regimen of his Patients, prescrib'd almost aqueous Liquors alone.

As for the Compression of the Fluids; all the Aliments, whether of a solid or a fluid kind, are lighter than the Blood. The Force, therefore, of the Vessels, by its continued Action consolidates and transforms them into laudable Blood. The smaller this Force of the Vessels is, the less compact Blood is form'd from the Aliments. This is sufficiently obvious from weak and tender Girls, who, instead of a solid Blood, have only a reddish Ichor circulating in their Veins. Now the fuller the Vessels are, the greater the Compression of the Fluids contain'd in them is; for the Force of the Heart throwing the blood into the Arteries, already much distended, must more forcibly compress the Blood already lodg'd in these Arteries, that by this means it may convey to them the Blood contain'd in its Cavities. Hence, when the Plenitude of the Vessels is diminish'd, the Cause of this Compression is, in a proportionable Degree, remov'd: Now the thicker the Fluids of the human Body are, they act with the greater Force on the Vessels; and, in a sound and healthy State, the reciprocal Action and Reaction of the Vessels and Fluids are exactly equal to each other. Whilst, therefore, the Density of the Fluids is diminish'd, their Pressure upon the Vessels must of course be proportionably lessen'd; now the quicker the Circulation of the Blood thro'

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the Vessels is, the oftener in any given Time are the condensing Causes apply'd to the human Fluids: Hence the sagacious Antients enjoin'd the highest State of Rest in all Diseases where the Circulation was too strong and vigorous. By diminishing, therefore, the Quantity, the Density, and the Motion of the Fluids, their Pressure is of course diminish'd, and, consequently, a present Rigidity of the Vessels and Viscera remov'd, and a future one prevented.

3. *As for those Things which suspend muscular Motion*; these have been already consider'd.

4. *As for Substances of a moistening Nature*; to moisten the human Body, is to fill it with a larger Quantity of Fluids, than it before contain'd, and at the same time to dispose it for the Retention of this larger Quantity. These two Intentions, jointly carried on, constitute what we call Humectation; for, when Water is drank without remaining in the Body, the Body may, by this means, be said to be wash'd, but not moisten'd. Tepid Water relaxes all the Vessels, but is far more emollient and moistening, when boil'd with farnaceous Substances: Thus it renders the Vessels less capable of resisting their Repletion. This holds true, with respect to the Solids of the human Body; but there is a kind of Difficulty with respect to the Fluids; for the human Blood, by the too strong Action of the Vessels upon it, begins to assume an inflammatory Spissitude; and in this Case it is not easily mixt with Water, which is taken into the Body. Thus 'tis often observ'd, that, in highly acute Disorders, large Quantities of Water drank pass off by Urine and Sweat; and, a few Hours after, the Urine is as red as before, neither are the Symptoms reliev'd. In this Case, the Water seems to have flow'd through the Vessels with the Blood, but not to have been intimately mixt with it, since it was forthwith separated from it. In this Case, therefore, mild saponaceous Substances mixt with Water; such as the Juices of Summer Fruits, mild Oils, Honey, Manna, and Sugar, so divide the Blood, when prone to a Concretion, that the Water may be more easily, and more durably, mixt with it.

Moistening Remedies are such as always have Water predominant in them; but such Things must be, also, added to them, as convey something of a glutinous Viscidity to the Water, which would otherwise pass too soon off, such as all farnaceous Substances, and emollient Herbs. Saponaceous Ingredients are also to be added, in order to divide the tenacious viscid Blood. In Greece, Decoctions of River-crabs were, from the Days of *Hippocrates*, highly celebrated for dry Consumptions, which so much rag'd in that Country. In Italy, Decoctions of Vipers Flesh are highly esteem'd for this Purpose; and, perhaps, in this Part of the World, Decoctions of Eels may be us'd as a proper Succedaneum to the former; for, in all these, there is a somewhat viscid, moistening, and mild Juice, which in such dry and parched Bodies, is capable of producing almost incredibly happy Effects. If to these Decoctions, of themselves insipid, we add grateful Pot-herbs, we have, by that means, a most excellent and perfect Remedy.

Broth of a moistening, lenitive, emollient, and resolvent Quality, may be prepar'd in the following Manner:

Take of lean Veal, well bruise'd, two Pounds; and of well cleans'd Barley, two Ounces. Boil in eight Pints of Water for three Hours, in a well-stopt Vessel, adding, towards the End, half a Pound of recent Garden Lettuce; of the *Lactuca Agmina*, four Ounces; and of the Roots of Vipers-grass, six Ounces: Then let them boil again for about a Quarter of an Hour, always adding such a Quantity of Water, that there may be at last six Pints of the Decoction.

Broth of River-crabs is to be prepar'd in the following Manner:

Take of live River-crabs, three Pounds; boil them for an Hour in twelve Pints of Water; then taking them out, bruise them with their Shells, and boil them in the same Water for four Hours, always adding such a Quantity of Water, that eight Pints of the Decoction may at last remain; then express the Broth strongly; and put into it, of Borage-flowers, half an Ounce; of Buglose-flowers, one Ounce; of the Roots of Goats-beard, four Ounces; and of Skirrets, two Ounces; then let them boil together for the sixteenth Part of an Hour: Of both these Preparations, let the Patient take two Ounces and an half, every two Hours.

A moistening Decoction may be prepar'd in the following Manner:

Take of white Poppy-seeds bruise'd, one Ounce; of entire Oats, four Drams; of red Chickens bruise'd, twelve Drams; of the flowers of Borage and Marshmallows, each seven Drams; of the Roots of Vipers-grass, two Ounces; of the Root of Liqueur, two Drams; of the
8 D Flower

Flowers of Mallows, and Pellitory of the Wall, each half an Handful: Boil in two Pints of Water, for a Quarter of an Hour; and then add of the Robs of Currans and Elder, each an Ounce: Of this Preparation, let the Patient take two Ounces every Hour, during the Day-time.

As for Substances of a lenitive Quality; Medicines are said to be lenitive, either with respect to the Solids, or the Fluids. Those which lenify the Solids, are such as remove their preternatural Rigidity, whereas those which are lenitive, with respect to the Fluids, are such as sheath up every Substance of an acrid stimulating Nature, of which Kind are the Ingredients already enumerated.

As for emollient Substances; lenitive Substances, also, belong to the Class of Emollients, only with this Difference, that Emollients have a Relation to the Solids, whereas Lenitives produce their Effects on the Solids and Fluids, at one and the same time.

As for diluting Substances; Dilution is a Word only applicable to the Fluids; and when these are diluted, the Solids are relax'd. Now, Water is the only proper Diluent, with respect to the human Blood; and all other Liquors commonly call'd Diluents only operate in consequence of the Water they contain. Salts attenuate and resolve, but at the same time do not dilute the Fluids; and all spirituous Liquors rather coagulate, than dilute the Juices of the human Body. Intensely cold Water, as well as that which is boiling, in like manner, coagulates the Blood. Hence tepid Liquors are of all others the most proper for diluting. Now tepid Water may be us'd in a great many different Methods, such as Baths, Vapours, Clysters, and Fomentations. Recent Whey may, also, be us'd in the same Manner, and for the same Purposes.

As for Resolvents; too great a Strength of the Vessels and Viscera is said to be induc'd, when a large Number of Vessels, before pervious, are concreted, and grown together. Hence, in order to answer the Intention of Cure, resolvent Substances, with respect to the Solids, ought to be possess'd of a Power of rendering the concreted Vessels again open and pervious. But this Circumstance is scarcely possible, or, at least, not obtain'd without the greatest Difficulty. Now, resolvent Substances, with respect to the Fluids, are all such as again disengage the fluid Parts now concreted, and reduce them to the Molecules, of which they consisted before the Concretion. And these Substances divide the concreted Parts, either by insinuating themselves between them, or by increasing the Force of the Vessels, in consequence of their stimulating Quality. Hence a greater Attrition, and frequently the Division of the concreted Parts, are produc'd. Sometimes Resolvents act in both these Manners.

The red Blood, when circulating thro' the whole Body, must necessarily pass thro' Vessels, whose Diameters do not exceed the tenth Part of the Thickness of a single Hair. But this same Blood, when out of the Body, is so concreted, that it could not possibly move thro' the largest Canals. Now, a resolvent Medicine is, properly, such as is capable of dividing the concreted Blood into Particles so small, that it may again pass through these minute Vessels. Now, as Humours of different Kinds may be concreted, so Resolvents of different Kinds become necessary; for aqueous Diluents resolve mucous, glutinous, gummy, and saponaceous Humours. But there are various Humours incapable of being resolv'd in this Manner; for human Blood is not hinder'd from Concretion by being put in tepid Water, whereas most saline Resolvents excellently answer this Intention: And inflammatory Concretions are most effectually resolv'd by neutral Salts, especially Nitre, and its Preparations, which are not only lighter than Sea Salt, but, also, more grateful to the human Constitution, and consequently of singular Service in almost all acute Disorders: Alkaline Salts are, on the contrary, more proper for resolving glutinous and viscid Concretions. Saponaceous Substances, especially those of the milder Kind, such as Sugar, Honey, and some others, resolve various Concretions, without creating any Trouble, whereas the chymical saponaceous Substances of a strong and acid Nature never operate without exciting violent Commotions. The Operation of all these Resolvents is much assisted by Frictions, whilst, by the alternate Compression and Relaxation of the Vessels, the Resolvents are mixt with the Blood, and produce a kind of Attrition with the concreted Fluids; for 'tis certain, that after the Use of a Vapour-bath, moderate Friction, and the internal Use of Resolvents, have often dissipated hard Tumors of the Glands, which in all Appearance seem'd impossible to be resolv'd.

Resolvents are, first, Diluents; secondly, Preparations of Sea Salt, Sal Gemme, Borax, Sal Ammoniac, alkaline Salts, whether of a volatile or fix'd Nature; Acids duly fermented, and Substances prepar'd from them; such as Sal Polychrestus, Tartarus tartarizatus, the purgative Tartar of *Sennerius*, the Pumicea Duplicita of the Duke of *Holstein*, antimoniated Nitre, and the *Sal Piperarum saturatus* of *Tachenius*.

Saponaceous Resolvents are volatile, spirituous, aromatic, and oleous Salts. Chymical Soaps, consisting of distil'd Oils, and fix'd Alcalis; as also common Soap, consisting of express'd Oils, and a fix'd Alkali. Preparations of Honey, and the ripe Juices of Summer Fruit. All these Ingredients may be exhibited in various Forms. Thus a Mixture may be prepar'd in the following Manner:

Take of distil'd Water of Rue, twelve Ounces; of Venetian Borax, two Drams; of Sal volatile oleosum, three Drams; and of the purest Honey, three Ounces. Mix all together, and let the Patient take one Ounce every Hour, during the Day-time.

Drops may be prepar'd in the following Manner:

Take of Elixir Proprietatis, prepar'd with Salt of Tartar, of Sal volatile oleosum, and of the purgative Salt of *Sennerius*, each half an Ounce. Let the Patient take twenty-five Drops in Wine, three or four times a Day.

Pills, for the same Intention, may be prepar'd thus:

Take of Venice Soap, Borax, and the best Aloes, each two Drams; make into a Mass, and let each Pill contain three Grains; and let the Patient take one four times every Day.

A Decoction may be prepar'd thus:

Take of recent Leaves of Soapwort, three Handfuls; of Brook-lime, two Handfuls; of Fumitory, one Handful; of the recent Roots of Grass and Succory, each two Ounces. Boil in Water, for a Quarter of an Hour, in a close Vessel; strain the Liquor thro' a Cloth; and when it is depurated by Standing, with every three Pints of it, mix of the Rob of Elder and Simple Oxymel, each two Ounces. Let the Patient drink two Ounces of this Preparation warm, every Hour.

A Powder for the same Intention, may be prepar'd thus:

Take of Sperma Ceti, and Borax, each two Drams; make into a Powder, to be divided into eight Doses, one of which is to be taken, every two Hours, in a little Wine.

As for Abstergents; when any thing of a viscid, glutinous, or tenacious Nature so adheres to the Surface of a Vessel, as to stop up the natural Passage of the Fluids, when this is remov'd, the Part is said to be deterg'd. Hence Abstergents, especially all those of the saponaceous Kind, are such as resolve the concreted Fluids. But, in those Vessels where the Motion of the Fluids is most swift and rapid, such viscid Concretions are not generally found, but only in the most minute Vessels, or in those Receptacles where the Humours are collected for certain Purposes. But it would be a great Error to believe, that all such viscid Adhesions are of a morbid Nature, since the whole internal Mouth, the Oesophagus, and Stomach, are cover'd with such a Mucus; and, when it is defective, the most terrible Disorders are produc'd. To the Class of Abstergents belong all diluent and resolvent Substances, especially of the saponaceous Kind. These contribute to the Cure of too great a Rigidity of the Vessels and Viscera, because, by removing the Obstructions, they procure a free Passage of the Humours through the Vessels. Hence the highly equable Circulation neither presses the Solids so forcibly against each other, nor condenses the Humours so much.

The Substances which remove glutinous Fluids, or half-corrupted Solids, from the Parts to which they adhere, are, first, Diluents; secondly, Resolvents; and, thirdly, but most especially, saponaceous, lixivial, and fix'd Salts, together with Preparations of Honey and Vinegar.

From what has been said, all the Disorders incident to the solid Parts may be understood and explain'd, since they all depend on a faulty Cohesion of the Parts: And from this Doctrine arise many Things of the greatest Use in Medicine; since, by this means, we are able to answer the following Questions.

What is the Diversity of Structure in the solid Parts, at different Ages? The younger the human Body is, the more simple Vessels, Fibres, and Membranes, it consists of; the more easily the Vessels yield to the Impulse of the Fluids, and the greater Proportion there is of the Brain, and of the Nerves distributed thence to the other Parts of the Body. If we take an accurate Survey of the Body of a new-born Infant, all the Parts appear pulposus, soft, and moist; the Palms of the Hands, and Soles of the Feet, are wet with the Moisture discharg'd from the small exhaling Vessels: Nothing appears dry and callous. But gradually, as the Infant advances in Years, many

many of the minute Vessels begin to be consolidated : Thus the Number of the Vessels is diminish'd, and the Strength of the Solids increas'd, till, at last, in extreme Old-age, a strong Degree of Callosity is induced on the dry Body ; and many of the minute Vessels are abolish'd. Hence all the Functions, which depend on the Motions of the most subtle Humours through the smallest Vessels, begin to be defective in old Persons ; and the Solids, becoming too rigid, make too strong a Resistance to the impel'd Fluids.

Why does a Man grow ? Hippocrates, in his first Book de *Vietus Ratione*, informs us, " That all the Parts of the human Body exist, and are increas'd at the same time ; and one Part is not so, sooner or later than another ; but the larger Parts are discernible sooner than those which are less, tho' the former did not exist before the latter." For, if we consider the Nature and Phenomena of Generation, pre-existent Parts only seem to be enfolded, and take up a larger Space. The same holds in the Propagation of Plants ; for the whole Plant, to be afterwards rais'd, lies latent, and, as it were, wrapt up, in the Seed. Since, therefore, in a tender Embryo, a great many Vessels are, as it were, intorted and folded up ; a Resistance to the Fluids to be convey'd through these Vessels is produced. But Fluids, when carried through Canals, when they meet with an Effort against, or a Resistance to their Motion, endeavour to distend these Canals, and lengthen their Sides. Hence an Elongation of all the Parts happens : And this is Growth. But, when all the Vessels are unfolded, a smaller Resistance is made to the propel'd Fluids, the Circulation through all the Canals is free and uninterrupted, and then the Lengthening of the Vessels ceases, because the Motion of the Fluids through them is freely carried on, and the Sides of the Vessels, consolidated by the vital Motion, no longer suffer themselves to be distracted by the same Force ; and in this Case the Body remains without Augmentation or Diminution.

This happens, because the Quantity and Impetus of the Humours are a Balance to the Force of the resisting Solids ; for the human Body does not cease to grow, because the Solids can be no longer extended, but because, in consequence of the Unfolding of the Vessels, the Circulation is render'd so free, that the Humours no longer stretch the Vessels ; for, even in an adult Person, when an Obstruction happens in any of the Vessels, the Velocity and Quantity of the Humours remaining the same, we see the particular Parts are increas'd. This is sufficiently prov'd by the Uterus of pregnant Women, which is expanded to so large a Bulk. And, perhaps, the surprising Augmentation of particular Parts is owing to some such latent Cause.

Why does the Body decrease ? By the necessary Effect of good Health such a Strength is soon produced in all the Vessels, that they gradually begin to make too strong a Resistance to the impel'd Fluids. Hence all the Parts are gradually contracted ; the whole Body becomes dry and parch'd ; and almost the whole Fat, which constitutes so great a Part of the Bulk of the Body, is consum'd. Hence, in the Hands of old Persons, we see the Tendons almost destitute of all Fat. The Ligaments, also, between the Bodies of the Vertebrae, are often so effectually abolish'd, that the Vertebrae touch each other. Hence the Taleness of the Body is diminish'd, the Spina Dorsi is incurvated forwards, and old Persons become gibbous, and, at last, die of a Marasmus, arising from Old-age.

Why do Men grow faster in the Uterus, than at any other Period of their Lives ? That this actually happens, is a Circumstance, the Truth of which we cannot call in question ; for in nine Months time, from an invisible Molecule, the Infant grows so large, that its Weight is often equal to sixteen Pounds, and sometimes more. The Reason of this Phenomenon seems to be this : The Vessels adjacent to their Heart, which is strongly mov'd, are highly tender ; and, as many of them are shrivel'd up, they make a more forcible Resistance to the impel'd Fluids : Hence they are more lengthen'd and distended. Besides, the whole Embryo is continually cherish'd by the tepid Liquor of the Amnios : Hence all the Parts are preserv'd highly lax ; and the Nourishment prepar'd by the Mother's Body, is not only continually convey'd to that of the Fœtus, but, also, equally distributed.

How does a Man contract a lax Habit of Body ? If a Person leads an idle unactive Life, indulges himself in Sleep, and at the same time uses soft Aliments, his Body will become preternaturally large, but his Strength is not augmented in Proportion ; and the Vessels are not sufficiently consolidated. Hence they easily yield, and are distended by the impel'd Fluids.

How does a Man become strong ? When the Force of the Fluids is more than a Balance to the Strength of the Vessels, the Body becomes tumid and lax. But when the Vessels, strengthen'd by due Exercise, sustain the Impetus of the Fluids without too great a Dilatation, and when this Strength of the Vessels is a precise Balance to the Quantity and Motion of the Fluids, the Man is said to be strong ; since, in such a Person,

there is a firm Cohesion of the solid Parts, and a due Density of the Fluids.

How does a Man acquire a rigid Habit of Body ? The same Causes which render the Body strong, continuing to act, will, of course, render it rigid. Age gradually strengthens the tender Body of a new-born Infant, and Exercise imparts Strength to the weakest Constitutions ; a more advanced Age renders all the Parts callos and rigid ; and excessive Labour brings on all the Symptoms of Old-age, before the due Time.

Why is a Man of a moist Constitution ? The Veins of the human Body, being easily dilatable, are, of course, fill'd with the fresh Supplies of Fluids taken into the Body ; but the firmer Strength of the Arteries again expels these Liquors : For, a sound and vigorous Man may drink an incredible Quantity of Water, which, being receiv'd into the Veins, is convey'd into the Heart ; and then, being distributed through the Arteries, is expel'd from the Body, and, next Day, the Man recovers his former Weight. When, therefore, there is such a Weakness of the Arteries, that they can neither put the Humours, receiv'd into the Veins, in sufficient Motion, nor expel the superfluous Juices, then the Fluids are accumulated, prevail over the Solids, and produce what we call a moist Constitution.

Why is a Man of a full Habit ? A Man is said to be full of Juices, when his Vessels are fill'd with a larger Quantity of laudable Humours than is requisite for the Purposes of Health. In such Persons there is such a Degree of Laxity in the Vessels, that they may be fill'd so far as not to create a Disease : But if, in this Case, the Humours should be increas'd or rancidified by Heat, or any other Cause, Health can no longer remain.

Why is a Man of a dry Habit of Body ? This State is produced simply by the increas'd Strength of the Vessels. When the Arteries are contracted with a greater Force than is requisite for perfect Health, the Fluids are expel'd, and the Body becomes dry. Hence Age, and hard Labour, by corroborating the Solids, render the Body dry.

Why does a Man die a natural Death ? A natural Death, is that which, undoubtedly, happens in consequence of the peculiar Frame and Make of the human Body. This happens, because the Elements of the Fibres are mutually apply'd to each other, Fibres to Fibres, Membranes to Membranes, the Sides of the Vessels to each other, and the flatten'd Vessels grow to other similar Vessels. Thus, at last, almost all the minute Vessels being concreted, the Circulation of the Humours is only carried on through the larger Vessels, which, at last, becoming dry, callous, and, sometimes, cartilaginous or bony, hinder the free Expulsion of the Blood from the Heart : Thus Life terminates in a calm and gentle Death. *Levi Corvaro*, that celebrated Model of Temperance and Mortification, died in this grateful and desirable Manner. Hence the Boastings of the Chymists are false and ill-founded, who foolishly promis'd Immortality, or, at least, pretended, that they could protract Life at Pleasure. This Species of gentle Death happens by the Rest of the Heart, when full, and not capable of evacuating its Contents into the Arteries, which are full, and so rigid, that they cannot be distended by the Force of the Heart.

What Diseases are most incident to different Ages ? In the first Years of Life Man is most subject to the Disorders of the nervous System ; because, as we know from Experience, the Brain, together with its Appendages, the spinal Marrow and Nerves, bear a larger Proportion to the other Parts of the Body, the younger the Body is. Besides, as at this Age the Brain is less firm, so the Nerves, arising from it, are not only soft, but cover'd with thin Membranes, and, consequently, easily affected, and render'd subject to Convulsions ; for an Infant can hardly be seiz'd with the slightest Fever, without being, at the same time, thrown into Convulsions. Gripes, arising from an Acid, in the Stomach and intestinal Tube, an Infection by the small Pox or Measles, and every thing which acts forcibly on the Organs of Sensation, such as a violent Noise, or a too strong Light, often excite Convulsions. And *Sydenham*, when, after Dentition, he found Children seiz'd with Convulsions, prognosticated the Small-pox, and those of a good Kind. Hence, since at this tender Age Convulsions are produced by such slight Causes, *Hippocrates* was not very dubious about a Cure, before the seventh Year of the Child's Age : But he pronounces them dangerous after that Age, because they are produced by more violent Causes.

Another Source of Disorders, which happen in the first Years of Life, is, that the Quantity of the Humours is more than a Balance to the Strength of the Solids ; for all Infants are turgid and moist. Hence happen so easy and so surprising Changes of the Humours, which are so often discharg'd thro' the Skin, in a manner not as yet sufficiently understood. This is obvious from Achors, Herpes, Excoriations behind the Ears, and under the Axillæ. By these means an incredible Quantity of Fluids is daily discharg'd ; and an imprudent Stop put to such Evacuations often lays a Foundation for the most terrible Disorder.

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Then, about the Time of Puberty, surprising Changes happen to the whole Body in both Sexes; in Men Tumors of the Testicles, and varicose Inflammations of the seminal Vessels, which are easily curable by gentle Purgatives, and slight Frictions over the Steam of kindled Amber. And in young Women surprising Disorders often precede, or accompany, the first Eruption of the Menfes.

Afterwards when the Parts of the Body begin to make a stronger Resistance, and the Vessels are no longer capable of being so easily distended, an Equilibrium, or just Balance, is produc'd between the Quantity and Impetus of the Fluids, and the Resistance of the Vessels. In the mean time sound Viscera continue to generate fresh Humours. Hence a Rupture of the Vessels easily happens, which lays a Foundation for Hemorrhages of the Nose, and Spittings of Blood.

In adult Persons, the Action of the Vessels on the Fluids is highly strong: Hence their Blood is render'd dense and compact, which lays a Foundation for acute inflammatory Disorders.

At last, when Old-age comes on, the Solids become more compact; the minute Vessels are gradually concreted, and become callous; and all the Functions, which depend on the Circulation of the most subtle Humours thro' the most minute Vessels, are gradually abolish'd: Hence all the Actions of the Brain and Nerves begin to be weaken'd; the Humours degenerate to a cold and phlegmatic State; the Circulation is only perform'd thro' the larger Vessels; and Death, at last, necessarily follow. Thus *Galen*, in the third Chapter of his sixth Book, *de Sanitate tuenda*, informs us, "That we become old, and "subject to Corruption, because we cannot avoid the Workings of Nature, which becomes gradually more dry."

Hippocrates in *Secl. 3. Aph. 24, 25, 26, 27, 28, 29, 30, 31*, has carefully remark'd the Diseases incident to different Periods of Life.

What Regimen is best accommodated to the various Periods of Life? So long as the Fœtus remains in the Womb, it receives the Humours prepar'd from its Mother; and, as soon as it is brought into the World, it by a happy kind of Instinct begins to suck its Mother's Breasts. The Milk, therefore, yielded by these, is of all others the most proper Nourishment for Infants: When their *Dentes Incisores* appear, Aliments somewhat more solid, but previously reduc'd to a Pulp, are to be exhibited; and, according to *Galen*, in the tenth Chapter of his first Book *de Sanitate tuenda*, they are to be often rub'd, but not with a full Stomach; then well-fermented Bread reduc'd to a soft Pulp by an Affusion of Milk, or Flesh-broth, may be properly us'd; and, when the *Dentes Molares* have appear'd, firmer Aliments may be exhibited. But all hot, viscid and irritating Substances are highly prejudicial to Infants, because their nervous Systems are very delicate and tender.

Children, on account of their voracious Appetite, are to have Aliments often exhibited to them; and *Hippocrates*, in *Aphor. 13. and 14. of Secl. 1.* informs us, that Children are, of all others, least capable of bearing Hunger. Those who are in a growing State, have a great Degree of innate Heat, and for that Reason require a large Quantity of Aliments, lest their Bodies should be consum'd and wasted away.

For adult and sound Persons, the Rule laid down by *Hippocrates*, in the sixth Book of his *Epidemics*, is generally sufficient; which is, *not to eat to Satety; and to use sufficient Exercise.* And since this Age is highly obnoxious to acute Distempers, it is obvious, that heating Substances are carefully to be avoided, and the Aliments ought to be always proportion'd to the Exercise; for a hardy Labourer requires quite different and more copious Aliments, than the Philosopher, who applies diligently to his Studies.

Since, according to the 13th and 14th Aphorisms of the first Section of *Hippocrates*, "old Persons bear Hunger easily, "have but a small Degree of natural Heat, and therefore "require but little Food, since much Nourishment extinguishes this Heat," they are, therefore, to have soft Aliments frequently exhibited; and, when they are become toothless, they are to be sustain'd almost by Milk alone, Broths, and Eggs. The moderate Use of Wine is in a particular manner beneficial to them, and is, for this Reason, by some call'd Old Mens Milk; for, in all fermenting Liquors, there is something of a surprisingly spirituous Nature, which in a Moment operates in an efficacious Manner upon the Brain and Nerves; but, when imprudently or too copiously us'd, it may produce sudden Death; or, if it should operate with less Violence, it may produce a Disorder still more terrible than Death itself, which is Madness, or some other Mischief sufficient to render Life a Burden. This spirituous Part, in new and fermenting Wines, is a highly efficacious Restorative in Old-age.

Cornelius every Year in the Months of *July* and *August* had an Aversion to all kinds of Wine. In consequence of this Peculiarity in his Constitution, his Appetite gradually languish'd, so that he became quite weak about the middle of *August*. But, upon his drinking the new Wine, for the three or four first Days of *September*, his Strength and Vigour return'd, notwithstanding his great Age.

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What Method of Life is most suitable to different Ages? In the first Years of Life, the Body is highly agile, Children can scarcely remain in a State of Rest, and have their Health disorder'd, if they are entirely restrain'd from their Diversions by too strict Parents, or Tutors. But when they are too soon inured to hard Labour, their Bodies are render'd strong, but they die of a callous State of the Vessels, induced before the due Time. Thus we observe, that Countrymen, accustomed from their Infancy to hard Labour, become rigid and callous like old Men, when, they are about forty Years of Age. It is no less a Fault, to accustom Children too soon to severe Studies, since, tho' they may at first give signal Proofs of the Pregnancy of their Genius, yet they either soon after die, or remain stupid, and good for nothing. Instances of this are every-where to be met with.

Adults ought by proper Exercise to sustain and confirm their Strength, lest the Body should become languid, and overburden'd with superfluous Fat. What Advantages accrue to the human Body from Exercise, we have already observ'd. *Galen*, in the third Chapter of his fifth Book *de Sanitate tuenda*, for old Men, recommends Frictions with Oil in the Morning after Sleep, and orders them to use their habitual Labours, tho' without Violence; and, as old Men are sensible of the smallest Errors with respect to Regimen, and young Men are scarcely affected by the greatest, he orders the former to use soft Aliments often repeated.

What Medicines are most proper in the different Periods of Life? Such Medicines seem almost only suited to Children, as, in some measure, diminish the Quantity of their Humours. Hence they easily bear gentle Purgatives, especially of Rhubarb. Those Substances are, also, beneficial to them, which have a Tendency to correct an acid Acrimony, such as the absorbent Powders of Crabs-eyes, and others of a like Nature. Such Medicines are excellently suited to Infants, as check the Irritation of the nervous System, and, at the same time, moderately corroborate the Solids: Hence Rhubarb with Crabs-eyes, and a little Cinnamon, is a Medicine excellently suited to the Condition of Infants. Then, when they advance in Years, such Medicines are never to be exhibited, as by their Stimulus render the Circulation of the Humours too brisk, lest the tender Vessels should, by that means, be ruptur'd. In the Years of Maturity, those Medicines are most proper, which remove that Propensity, which the Humours have, to assume an inflammatory Spissitude. Old-age, on the contrary, which, according to *Galen*, in the ninth Chapter of his fifth Book *de Sanitate tuenda*, "Is nothing, but a dry and cold "Habit of Body, brought on by Age," requires moistening and gently nutritive Medicines, with the Addition of grateful, stimulating, and spirituous Substances, but always mixed with such as are of a moistening Quality.

Of what Certainty and Use is the Doctrine of Stricture and Relaxation in the Solids? After Medicine was divided into two Sects, each of which had its Followers, some, contending that the Art was built upon Experience alone, maintain'd that a Knowledge of evident Causes was necessary; but affirm'd that Disputes about obscure Causes, and natural Actions, were superfluous; and asserted that Medicine was not invented after Reasoning; but that, after Medicine was discover'd, the Reasons of Phenomena were found out. Hence this Sect maintain'd, that Experience, was alone necessary, and its Followers were call'd Empirics. Others, who were call'd Rational, did not deny the Necessity of Experience, but affirm'd that it could not be obtain'd without some previous Reasoning. Besides, they affirm'd that a Knowledge of the remote and latent, as well as evident, Causes of Diseases was necessary, as also a Knowledge of the Natural Actions, and consequently of the internal Parts.

Among the Rational or Dogmatic Sect, *Themison*, one of the Followers of *Aesclepiades*, and after him others, reduc'd this difficult Art to a kind of brief System; and asserted that the Knowledge of no Cause contributed to the Cure of Diseases; and that it was sufficient to be acquainted with some Circumstances, which Distempers, had in common; and that these were of three Kinds, that is, Stricture, Flux, or a Mixture of these; because sometimes the Sick discharg'd too little, at other times too much, and at other times too little in one Part, and too much in another.

This was the Origin of the Doctrine of Stricture and Relaxation, concerning which *Prosper Alpinius*, in his *Medicina Aethiopica*, afterwards treated fully. Many Things, relating to this Doctrine, also occur in *Caelius Aurelianus*, who was of the Methodic Sect.

But Stricture and Relaxation can only properly happen in the Solids, nor could they easily explain the Diseases of the Humours from these. 'Tis, therefore, of great Importance in Medicine, to consider the Change of Cohesion in the solid Parts; nor yet can all Diseases be deduced from it, as the Methodic Sect maintain'd. See the Articles ACIDIA, and ALCALIA.

Hence

Whence are we to take our most certain Mark of a due Degree of Stricture, or Relaxation? When after copious Eating and Drinking, and the being expos'd to a moist Air, the Body either does not become tumid, or does not remain long so; we know that the Vessels and Viscera have a due Degree of Strength; by which the superfluous Quantity of distending Liquors is soon expel'd from the Body. When the Body of an adult Person does not gradually decrease; by the too great Contraction of the Vessels, and the consequent Expulsion of the Fluids, we then know, that an Equilibrium between the Solids and Fluids prevails. If, upon a copious Use of Aliments, the Body immediately becomes tumid, we know that the Vessels are too weak, and too easily dilated: If all the Parts are lean, dry, and parch'd, we justly conclude, that the Vessels are too strong.

FIBRILLA. A Diminutive of *Fibra*; but commonly us'd in the same Sense.

FIBULA, in Anatomy, is the outer and smaller Bone of the Leg. See **CRUS**. In Surgery it signifies a Button. See **INFIBULATION**.

FIBULEUS. A Name for the *Musculus peroneus primus*.

FICARIA. A Name for the *SCROPHULARIA*, or Fig-wort.

FICATIO, the same as **FICUS**, a Disease of the Anus, and other Parts. See **ANUS** and **FICUS**.

FICATUS, *συνωτδ;* is an Epithet apply'd to the Viscera of those Animals which are fatten'd by feeding on dry'd Figs, and also to Meats prepar'd of those Viscera, particularly the Liver. *Galen, Lib. 3. de Alim. Fac. & Com. 3. in R. V. I. A.*

FICEDULA, *Offic. Charlt. Exer. 88. Bellon. des Oyse. 359. Ficedula, Atricapilla, Gefn. de Avibus, 339. Atricapilla, Jonst. de Avib. 90. Schw. A. 227. Atricapilla, seu Ficedula, Aldrov. Ornith. 2. 757. Raii Ornith. 226. Eufdem Synop. A. 79. Will. Ornith. 162. THE BLACK-CAP.*

The Bird, used as Food, sharpens the Eyesight. *Dale.*

FICOIDEA. This Plant is so called, from its Resemblance to the *Ficoidea*.

The Characters are;

It has a stameneous Flower, whose Calyx is divided into five roundish Segments: When the Flower is past, the Pointal, which is terminated by five Threads, becomes a five-corner'd Fruit; which, when ripe, opens into five Cells, each of which is filled with small Seeds.

The Species are;

1. *Ficoidea procumbens, Portulaca Folio. Acad. Reg. Scient.* Trailing Ficoidea, with a Purslain-leaf.

2. *Ficoidea Hispanica annua, Folio longiore.* Annual Spanish Ficoidea, with a longer Leaf. This exotic Plant is cultivated with us in Stoves; but I find no medicinal Virtues ascribed to it.

FICOIDES.

The Characters are;

The whole Plant is succulent, and has the Appearance of Housleek: The Leaves are conjugated, or grow opposite by Pairs: The Calyx surrounds the extreme Margin of the Ovary; is of a carnosous or fleshy Substance, and pentaphyllous, or pentaphylloidal: The Flower is polypetalous, very minutely divided, and springing from the Top of a Capsule: The Ovary produces five reflected Tubes, and becomes first a succulent, afterwards a fungous Fruit, divided into five or more Cells, like little Pods, full of numerous minute Seeds.

Boerhaave, in his *Index alter Plantarum, Pars 1. p. 289.* enumerates fifty-three Species of this Plant; which, in the *Historia Plantarum* attributed to him, are said to be of an emollient Quality, and to have the other Virtues of the *Sedum*, or Housleek. The Fruit is eatable, and a good Part of the Food of the *Hottentots*.

FICUS.

The Characters are;

From the Extremity of the Pedicle shoots forth a small triphyllous Calyx; whence arises the Pericarpium, inclosed in a somewhat spinous Membrane, and contracted at the Top of the Fruit, where it forms an Umbilicus, and passes into many small squamous sharp-pointed Leaves, successively incumbent one upon another, which by their closing almost cover the Cavity, which there opens itself, while the outer Leaves, being supported by the thick Pedicle, press one another very closely, and the inner ones adhere without a Pedicle.

From within the Cavity of the Pericarpium, all around, proceed, long, tubiform, more petalous, Hermaphrodite Flowers, with Ovaries, which are testaceous Capsules, growing in pulposus Husks, placed within others, which are rough.

Boerhaave mentions eight Species of this Plant; which are,

1. *Ficus, communis, C. B. Pin. 457. Boerh. Ind. A. 2. 258. Ficus, Offic. Ger. 1327. Emac. 1510. J. B. 1. 128. Chab. 9. Raii Hist. 2. 1431. Aldrov. Dendr. 427. Ficus*

vulgaris, Park. Theat. 1494. Ficus sativa, Jonst. Dendr. 46. THE FIG TREE.

The Fig-tree seldom grows to be a Tree of any great Bigness in our Parts; being cloath'd with large Leaves, bigger than Vine-leaves, full of high Veins, and divided, for the most part, into five blunt-pointed Segments, yielding a thin milky Juice, when broken. It bears no visible Flowers, and they are therefore supposed to be hid in the Fruit, which it produces twice a Year, Spring and Autumn, though those only, which come forth in the Spring, arrive to Maturity. When ripe, they are as big as a Pear, being of a brownish green Colour on the Outside, and red within, full of small round Seed, and of a sweetish Taste. The dry Figs come principally from *Spain* and *Portugal*, being first cur'd by dipping them in scalding hot Lye, made of the Ashes of the Cuttings of the Tree; and afterwards, carefully drying them in the Sun, they are put into Barrels or Frails; and these are what are only used in Medicine.

These Figs are cooling and moistening, good for Coughs, Shortness of Breath, and all Diseases of the Breast; as also for the Stone and Gravel; and useful to drive out the Small-pox, and Measles: Outwardly applied, they are dissolving and ripening, good for Impostumations, and Swellings, and pestilential Buboes.

New Figs, provided they are ripe, are very easy and quick of Digestion, quicker than any other Summer Fruit: And of this we are certain; because we not only eat of them more freely than of other Fruits, without any Inconvenience; but also eat them before Meals, not at all diminishing the Quantity of Meat and Drink, we usually take; and yet are not in the least disorder'd thereby. *J. B.* In *Italy* it is the Custom to eat plentifully of Figs before Dinner, without any consequent Inconvenience. *Galen*, in order to preserve his Health, as he says, abstain'd from all Summer Fruits, except perfectly ripe Figs and Grapes, from his twenty-eighth Year to Old age; and his Friends, whom he advis'd, in like manner, to abstain from these sort of Fruits, maintain'd themselves in Health, by following his Advice. *J. Bauhine* proves Figs to be of a glutinous and salt Quality; because, by their Viscidness, they stick to the Hands, and at the same time absterge them after the manner of lixivial Salt, and Nitre: Hence they excite to Stool, but without Gripes, or Perturbations. They increase their salt Property by an Addition of Salt; and thus are the new Figs, now prepared and eaten in *Italy* and *Provence*. After eating them you are to drink plentifully, that they may not be detained long in the Stomach, but the more easily be digested, and the more readily descend. The Antients, *Dioscorides*, *Pliny*, and *Galen*, are very prolix in describing the Virtues of this Fruit. Physicians agree that the Caricæ, or dry'd Figs, are good for the Asthma, Cough, and other Disorders of the Breast and Lungs; the Custom is to macerate two or three Figs for a Night in Wine, and exhibit them in the Morning, to be eaten by the asthmatic Patient; but the most effectual Preparation is a Decoction of the same with Hyssop, which is called by *Mesue* a great Absterfory. Green Figs allay Thirst and Heat; the dry ones have a contrary Effect, especially in bilious Constitutions, affected with febrile Disorders, incident to such Natures; for they are easily converted into Bile, as are Honey, Sugar, and other sweet Things. *C. Hoffman* advises those who are subject to a Looseness to avoid eating Figs, which are very ripe, and of the longest standing, and especially at Dinner, because if, by their too long Stay in the Stomach, they should happen to putrefy, they generate putrid Fevers. At present Figs, according to *C. Hoffman*, are only used in two Cases, which are, in a Decoction for the Small-pox and Measles in Children, and for Gargarisms in Inflammations of the Fauces and Tonsils: It is, however, agreed, by the unanimous Consent of almost all Physicians, that they are of excellent Service in the Asthma, Coughs, and other Affections of the Lungs. It is common with our old Women to advise eating of roasted Figs to Women drawing near their Labour, in order to facilitate Delivery; and it is customary to kindle Spirit of Wine upon Figs, and to drink Decoctions thereof, in order to mitigate a Cough.

Figs outwardly apply'd ripen, mollify, and draw; bruised with Ferment, and Salt mixed therewith, they cause pestilential Buboes, and other Abscesses, to break in a few Days. *Tragus* is of Opinion, that King *Hezekiah, 2 Kings Cap. 20.* was, by the Advice of the Prophet, cured by the same Medicine.

That the frequent Use of Figs generates Lice, not only *Galen*, but *Oribasius*, *Paulus Aegineta*, and many of the Moderns, are firmly persuaded; and the same Opinion prevails at present among the common People: But whether the same can be attested by Experience, remains, with me, says *Ray*, a Doubt.

The Juice of the Fig-tree, whether extracted from a Wound in the Tree, or expressed from the Leaves, is hot and biting, so as to be reckon'd among Caustics; but, with due Preparation, it is of good Service, externally us'd, as an Abstergent, in malignant Ulcers, Lichen, Lepra, and other cutaneous Diseases; it also extirpates the Warts called *Myrmecia*.

The same Judgment, says *C. Hoffman*, is to be made of the green or unripe Figs, both of the Garden Fig-tree and the *Caprificus*; for these, especially those of the latter, have as much of a caustic Quality as the Trees themselves; which appears, because a Solution of them in Vinegar can dissolve Bulls Blood.

Take of the Shoots, or young Branches, of the Fig-tree, cut small, one Pound: Boil them in a Pint of Wine, and a Pint and half of Water: The Dose is four Ounces in the Morning for a Dropsy. It is a potent Sudorific.

Letters written on Paper with the Milk, or Juice, of the young Branches, disappear till held near the Fire, and the Paper is very much heated, when they appear as if they were burnt. The same Effect has Vinegar, Juice of Lemons, and other Acids; and hence also this Juice, by its acid Quality, will coagulate Milk into Cheese, as we are assured by *Pliny* and *Dioscorides*. *Ray Hist. Plant.*

2. Ficus; communis; fructu albo. *C. B. P.* 457.
3. Ficus; communis; fructu viridi. *C. B. P.* 457.
4. Ficus; communis; fructu cœruleo. *C. B. P.* 457.
5. Ficus; foliis robustioribus, & ramis erectioribus. *H. L.*
6. Ficus; humilis. *C. B. P.* 457. *Chamaeficus*. *J. B.* 1. 120.

7. Ficus; Malabarensis; folio cuspidato; fructu rotundo, parvo, gemino. *Pluk.* 178. 2. THE MALABAR FIG, or INDIAN GOD-TREE.

8. Ficus; Bengalensis; folio subrotundo, fructu orbiculato. *H. A.* 1. 119. *Boerb. Ind. alt. Plant. Vol. 2. p.* 258.

Besides the foregoing Species of FICUS, *Dale* mentions the following:

1. *Ficus sylvestris Dioscoridis*. See CAPRIFICUS.
2. *Ficus Indica*, Offic. *J. B.* 1. 146. *C. Comm. Flor. Mal.* 111. *Aldrov. Dendr.* 434. *Jonf. Dendr.* 48. *Ficus Indica Arbor radicum Indiae*, Chab. 7. *Ficus Indica arcuata*, Park. Theat. 1499. *Ficus Indica foliis Mali Cotonci similibus fructu ficibus simili*, ex Goa, *C. B. Pin.* 457. *Tourn. Inst.* 663. *Arbor ex Goa sive Indica*, Ger. 1331. *Emac.* 1514. *Katou-alou*, Hort. Mal. 3. 73. Tab. 57. *Raii Hist.* 2. 1437. THE INDIAN FIG-TREE.

It grows in many Places in the Country of Malabar in the East Indies, and is green, and bears Fruit, throughout the Year, and will live some Ages: Its Virtues are much the same with those of the common Fig-tree. *Ray. Dale.*

3. *Ficus folio Mori fructum in candice ferens*. See SYCOMORUS.

4. *Ficus Cypria*, Offic. *J. B.* 124. *Ficus folio Sycomori, folio non in Candice ferens*, *C. B. Pin.* 459. *Ficus sylvestris Gretica folio non diviso, leviter crenato*, *Tourn. Coral.* 45. *Sycomorus Cypria*, Chab. 8. *Jonf. Dendr.* 61. *Sycomorus altera, sive Ficus Cypria*, Park. Theat. 1492. *Raii Hist.* 2. 1439. THE CYPRIAN SYCOMORE-TREE.

It very much resembles the Egyptian Sycomore (see SYCOMORUS) in Trunk, Leaves, and Fruit; only, whereas the latter bears its Fruit mostly on the larger Branches, and on the Trunk itself, this Tree, on the contrary, has its Fruit growing very thick on small solitary Shoots, bare of Leaves, and generally about a Span in Length: These kinds of Trees bear Fruit three or four times a Year: The Fruit itself is small, inclining to an Ash-colour, and of a roundish oblong Shape, like a Plum; and may be found on the Tree almost at any time of the Year. It grows in Cyprus, as its Name informs us; and also in Syria, Rhodes, and some other Countries.

Its Virtues are the same as those of the Egyptian Sycomore, or SYCOMORUS, which see. *Ray Hist. Plant.*

FICUS, also, from the Resemblance, is a Name given to certain Excrecences, which sometimes grow about the Anus, Uterus, and Pudenda. See ANUS and VAGINA.

FIDA. Gold or Silver. *Rulandus.*

FIDDA. The Moon. *Rulandus.*

FIDEUM. Saffron. *Johnson.*

FIDICINALES. The Muscles call'd LUMBRICALES; which see.

FIDO. Quicksilver, sometimes Gold. *Rulandus.*

FIDUCIA, Confidence, in Medicine, is the firm Trust or Reliance of the Patient on the Physician; which, according to *Hippocrates*, *Prognost.* in *Psalm.* and others since him, is of no small Moment towards a Cure.

FIGENTIA are such things as fix Volatiles, and concentrate Acids. *Blancard.*

FIGURA, Figure, the outward Form or Appearance of any thing. *Figurata Medicamenta* are solid Medicines reduc'd into particular Forms or Shapes, as Troches, Pills, and the like. *Stercora figurata*, figur'd Stools, are when the Faeces are solid enough to assume a Figure. *Castellus.*

FILACEOUS Roots are such as are furnish'd with a great Number of Filaments; that is, of small Threads or Strands.

FILAGO.

The Characters are;

The Calyx is squamous, and neither shining nor specious: The Floscules are divided or cut in form of a Star: The broken Parts end in ductile Filaments.

Boerhaave mentions seven Species of this Plant; which are,
1. Filago; seu Impia. *Tourn. Inst.* 454. *Boerb. Ind. A.* 119. *Gnaphalium*, Offic. *Gnaphalium vulgare majus*, *C. B. P.* 263. *Raii Hist.* 1. 295. *Gnaphalium Germanicum*, *J. B.* 3. 158. *Gnaphalium minus sive Herba Impia*, Park. 686. *Raii Synop.* 84. *Filago sive Herba Impia*, Ger. 517. *Emac.* 642. COMMON CUDWEED. *Dale*, p. 91.

This kind of Cudweed grows to be near a Foot high, usually with one woolly Stalk, having several long, narrow, crumpled, sharp-pointed, whitish Leaves, set pretty close to the Stalk: On the Top of the Branches grow round Globules or Heads compos'd of a great Number of small naked Flowers set together in Clusters; and, from the Middle of these, on both Sides spring smaller Branches, over-topping them three or four Inches, bearing at their Ends the like, but smaller Heads of Flowers, whence 'tis call'd Herb Impious, from the younger Heads over-topping those from whence they had their Original: These Heads pass away into Down, holding very small Seed: The Root is small, woody, and perishing yearly: It grows in dry barren Places, and often in fallow Fields.

Cudweed is drying and binding, and accounted good for all sorts of Hemorrhages and Fluxes. It is given to Cattle that have lost the ruminating Faculty, and is therefore called Cudweed. It is rarely used. *Miller's Bot. Off.*

Dodonæus mightily commends the distilled Water of this Plant for the Cancer in the Breasts; applying, once a Day, Pledgets and Compresses soaked in it. *Lobel* says, the Infusion of this Plant in Oil of Olives, makes a very good Balsam for Wounds and Contusions. *Martyn's Tournesfort.*

2. Filago; altera. *Dod.* p. 67.
3. Filago; minor. *Dod.* p. 66.
4. Filago; vulgaris; tenuissimo folio; erecta. *T.* 454.
5. Filago; maritima; capite folioso. *T.* 454.
6. Filago; erecta; latifolia; capitulis tomentosis.
7. Filago; quod Gnaphalium; longifolium; humile; ramosum; capitulis nigris. *Raii Synop.* 85. *Boerb. Ind. alt. Plant. Vol. 1. p.* 119.

This Herb is of an antihysterical Quality, and highly beneficial in Cancers, and other Disorders of the Breasts. Some, also, affirm, that it cures the Leprosy; but this they have been induc'd to believe, by the Down with which its Leaves are cover'd; for which Reason they have also imagin'd, that it removes an Excess of unseemly Down on the Skin: But these are groundless Conceits. All the Species of this Plant are possess'd of an incredibly drying Quality, which is sufficiently conspicuous upon chewing the Leaves in the Mouth. Hence the several Species of this Herb are proper for putting a Stop to Fluxes of Humours. *Boerhaave, Hist. Plant.*

FILAMENTUM, Filament, in Botany, is a small Thread or Fibre, belonging to the Roots of Plants: It is also used to signify that viscid concreted Matter, which appears like Hairs or Threads in Urine.

FILELLUM. The Frenum, or Bridle, by which the Prepuce is connected to the Glans of the Penis; it is also call'd *Canis*. *Castellus.*

FILETUM. The nervous Ligament under the Tongue, which Midwives usually divide with their Nail, or a Six-pence, immediately after the Birth: Sometimes it is cut by a Barber-surgeon, with a Lancet, or a Pair of Scissars, to the endangering the Life or Speech of the Child, tho' this Operation is very rarely found to be necessary.

FILICULA. See FILIX.

FILIPENDULA.

The Characters are;

The Root is fibrous and perennial, with glandulous Bulbs fallen'd to it: The Leaves are finely jagged, like those of Millefoil: The Calyx is monophyllous, denticulated, and divided into six or seven Segments, which are retroflected, or bent backwards: The Flowers are hexapetalous or heptapetalous, loosely dispos'd in Panicles on long Stalks, which are almost naked: The Stamina are numerous, and situated on the reflected Margin of the Calyx: The Fruit is generally round, and contains many Seeds compacted together, each of them furnish'd with its Tube.

Boerhaave mentions two Species of this Plant; which are,
1. Filipendula; vulgaris; an Molon Plinii? *C. B. Pin.* 163. *Tourn. Inst.* 293. *Elem. Bot.* 243. *Boerb. Ind. A.* 43. *Filipendula*, Offic. *J. B.* 3. 189. Ger. 900. *Emac.* 1058. *Raii Hist.* 1. 623. *Synop.* 3. 259. Mer. Pin. 38. *Filipendula vulgaris*, Park. Theat. 434. *Hist. Oxon.* 3. 320. *Buxb.* 111. *Filipendula Officinarum*, Rupp. Flor. Jen. 129. *Filipendula vulgaris*, *Oenanthe*, Merc. Bot. 1. 35. *Phyt. Brit.* 41. *Oenanthe*, *Filipendula*. Chab. 407. *Saxifraga rubra vulgo*. DROPWORT.

The Roots of Dropwort consist of a great Number of oval Glandules, fastened together by slender Strings, from which spring several long, narrow, and, as it were, pinnated Leaves, whose Pinnæ are ferrated, and not much unlike the smaller Burnet Saxifrage-leaves: The Stalks grow to be about a Foot high, having but few Leaves there; but, on their Tops, a pretty many Flowers in form of an Umbel, which are white within, and reddish on the Outside, made of six Leaves, with a great Number of yellowish Stamina in the Middle, which are succeeded by several flattish Seeds growing in a Head together: It grows in chalky Grounds, and flowers in *June* and *July*; the Root being principally used.

The *Filipendula* is styptic, sweet-smelling, glutinous, of a Taste a little saltish, and gives a pretty deep-red Tincture to blue Paper: The Root gives it a pretty strong one: It is styptic, and a little bitter. This Plant contains a Salt, approaching to that of Alum; but it is mixt with a great deal of Sulphur; for by the chymical Analysis we obtain from it a great deal of acid Earth and Oil. All Authors agree, that it is very diuretic and aperitive. *Tabernæmontanus*, after *Sylvaticus*, *Simon Januensis*, *Bayrus*, and *Lobel*, recommend it for the Epilepsy; and *Mercator* and *Prevotius* for the Dysentery. *Martyn's Tournefort*.

The Root is an Attenuant, and somewhat astringent; a Decoction thereof provokes Urine, expels the Stone, and helps the Dysury and Strangury. Some commend the Powder of the Root, and its Juice, against the Epilepsy: Others write, that *Filipendula* in Qualities approaches very near to Peony; for which Reason, as *Lobel* says, the Roots are of Service in the Epilepsy, and Vertigo: Used with the Seeds of Fennel, they relieve under Shortness of Breath, the Asthma, and Inflations of the Stomach. *S. Pauli*, from his own Experience, commends the Powder of the Roots as an approved Remedy in the *Fluor albus*, when all other Medicines have failed: It is, also, of excellent Use in an excessive Flux of the Lochia: The Dose is a Dram, in a Decoction of *Daucus*. *Corbæus* exhibited every Day a Dram of the green Root of *Filipendula* in black Wine for the *Fluor albus*. *Prævotius* tells us, that he often cured the Dysentery, by exhibiting a Dram of the Powder of the Root in Wine, or the Yolk of an Egg, which *Lud. Mercatus*, before him, had recommended as a Secret. The Plant is certainly of a remarkably astringent Quality, and to such a Degree, that, as *Tho. Carthusius* observ'd, Hernias have been cur'd by eating it. *Ray, H. Plant.*

2. *Filipendula*; omni parte major; folio angustiori. *An Filipendula minor?* C. B. P. 163. Prodr. 85. *Boerb. Ind. alt. Plant. Vol. 1. p. 43.*

FILIUS ANTE PATREM, the Son before the Father. An Expression, which Botanists apply to Plants, whose Flower comes out before their Leaves.

FILIUS, the Son, in the Spagirie Language, is a Term apply'd to various Works in the Affair of the Philosophers Stone: Thus, the Redness, which emerges after the Whiteness, and is call'd *Rex diadematus*, or *coronatus*, is also call'd, *Filius nigri & albi*. Again, *Filius unius Ostium* is Vitriol, or Orpiment; *Filius unius Diei* is an Egg, and the Philosophers Stone; and *Filius Veneris* is *Aurichalcum*. *Rulandus*.

FILIX.

The Characters are;

The Leaf is compos'd of other Leaves, which adhere to a Rib in such a manner, as to have Lobes on both Sides, cut into the Depth of the main Fibre: The Fruit resembles that of *Polypody*.

Boerhaave mentions nine Species of this Plant; which are,

1. *Filix*; non ramosa; dentata. C. B. P. 358. *Hist. Oxon.* 3. 578. *Tourn. Inst.* 536. *Elem. Bot.* 428. *Dill. Cat.* 103. *Boerb. Ind. A.* 26. *Filix mas*, Offic. Ger. 969. *Filix*, Chab. 553. *Filix mas vulgaris*, Park. 1036. *Raii Hist.* 1. 143. *Synop.* 47. *Buxb.* 112. *Filix mas non ramosa, pinnulis latis, densis, minutim dentatis*, Ger. Emac. 1129. *Filix vulgò mas dicta, sive non ramosa*, J. B. 3. 737. COMMON MALE FERN.

The Leaves of this Fern are pretty long and large, not divided into Branches, as the Female Fern is; but having several long Surculi of pinnated indented Leaves, growing on each Side the Stalk, which are not directly opposite on the Rib, but grow alternately, one a little above another: The Seed grows in round dusky Globuli, along the Back of the Leaves: The Root pretty much resembles that of *Osmund Royal*, and is, indeed, generally sold for it by the Herb-women: It grows in Hedges, and shady Lanes.

The Root is only used; being apply'd to the same Purposes, and suppos'd to have the same Virtues, with the Roots of *Osmund Royal*: It is believ'd to be hurtful to the Female Sex, and to cause Miscarriage. See *OSMUNDA REGALIS*.

It grows on the shady Banks of Hedges: The Part used in Medicine is the Root, which is thick, blackish without, but pale within, fibrous, involv'd and interwoven with Multi-

tudes of Appendages, and of a bitter and somewhat astringent Taste.

The Virtues are the same as those of the *Female Fern*; but it has a peculiar Efficacy against the Rickets, or Reckets: It expels Worms and the Stone; relieves those who labour under an Increase of the Spleen. *Dioscorides* says, that the Root drank, or made into an Ointment with Fat, cures Wounds inflicted by Arrows. *Theophrastus*, *Pliny*, and *Dioscorides*, agree, that it causes Barrenness and Abortion. *Tragus* assures us, from his own Experience, that when a Horse falls down, and you are puzzled to find the Nature of his Disorder, if you put a Rib of the Root of this Plant under his Tongue, he will immediately excrete both Ways, and rise up. *Dale, Ray*. This, however, I will not vouch.

2. *Filix*; non ramosa; latifolia; dentata. T. 536.

3. *Filix*; non ramosa; latifolia; dentata profundius; pinnulis maximis.

4. *Filix*; non ramosa; minor; pinnulis in summo leviter incis. *Flor.* 1. 147.

5. *Filicula*; fontana; major; sive *Adiantum album*, filicis folio. See *ADIANTHUM*.

6. *Filix*; baccifera. *Corn.* 5.

7. *Filix saxatilis* Tragi. J. B. 3. 755. *Muscus corniculatus*. Ger. Ic. 1561.

8. *Filicula*; saxatilis; regia; pinnulis ad fumariam accedentibus. *Vaill.*

9. *Filicula*; saxatilis; pinnulis brevioribus acutis. T. 542. *Boerb. Ind. alt. Plant. Vol. 1. p. 27.*

The *Historia Plantarum*, attributed to *Boerhaave*, informs us, that all these Species of Ferns, especially the first, second, and third, are excellent in the Rickets, and Diseases proceeding from Laxity; and good in the Scurvy, Pleurisy, and Dropsy, being a powerful Diuretic.

Botanists divide Fern into Male and Female: The Male is that which has no Branches, but only one main Rib: The Female is that which is branch'd.

A great many more Plants, besides those mention'd under this Article, are call'd by the Name of *Filix*; but these are either taken notice of under other Names, agree in Virtues with those here specify'd, or have no Virtues ascrib'd to them.

Besides the foregoing Species of *FILIX*, *Dale* mentions the following:

Filix fœmina, Offic. Ger. 969. Emac. 1128. *Raii Hist.* 1. 149. *Synop.* 49. *Buxb.* 113. *Filix femina vulgaris*, Park. 1037. *Filix ramosa major pinnulis obtusis, non dentatis*, C. B. 357. *Tourn. Inst.* 536. *Elem. Bot.* 428. *Filix major & prior Trago, seu ramosa repens*, J. B. 3. 735. *Filix ramosa repens vulgarissima*, *Hist. Oxon.* 3. 583. *Thelypteris*, *Dill. Cat.* 174. FEMALE FERN, or COMMON BRAKES.

The common Female Fern, or Brakes; has many large Leaves, divided into several Branches, beset with long, narrow, stiff Pinnulæ, which are mostly smooth about the Edges, though sometimes they are a little indented: The Back of these, about Midsummer, will be cover'd round the Margins with a great Number of dusty-brown Particles, which are the Seed: The Root is long and thick, spreading much in the Earth, sending out Shoots on every Side, which makes it hard to be eradicated: It grows but too frequently upon Commons and Heaths, being used in want of Fuel by the Country-people, for heating their Ovens, and other Uses.

The Roots only are used in Medicine, and those but rarely; being commended as very good for Worms, especially the flat Worms: A kind of Pot-ash is made of the Stalks and Leaves burnt. *Miller's Bot. Off.*

The Powder of the Root, taken to the Weight of half an Ounce (*S. Pauli* says, a Dram) in Hydromel, kills the flat Worms, and, also, long ones; being, as *S. Pauli* assures us, instantaneously mortal to these Vermin, and, for that Reason, accounted, by circumforaneous Quacks and Mountebanks, the best of all their Secrets against the Worms; and a proportionable Price they set upon it. A Decoction of the Root in Wine, drank for some Days together, relieves under an Increase of the Spleen. The Juice of the Root, either green or dry, with a Mixture of Rose-water, or Cowdung Water, or Water of Lime-tree-flowers, or, for want of these, common Water, is of excellent Service in all Kinds of Ambuissions, whether by Fire, boiling Water, or Oil; for, as *Tragus* and *S. Pauli* assert, it yields a viscous and mucilaginous Juice, which is effectual in Cases where other Medicines are of no Service: It is, also, a most approv'd Remedy against Hernias and Ulcers. *Ray, Dale*.

FILLETIN. A Plate of Iron. *Rulandus*.

FILM, in Botany, is that woody Skin which separates the Seeds in the Pods of Plants.

FILONES, in *Fallop. de Metall.* are the Fibres of Stones.

FILTRATIO. Filtration. This is the passing any Fluid through a Strainer, or Filter, in order to separate from it any gross Particles it contains, and render it limpid. In order to filtrate

filtrate a Fluid, the Apothecaries fold up a Piece of bibulous or filtrating Paper, in the Shape of a Funnel: This they place in a Funnel, with the small End, in the Vessel they intend for the Reception of the filtrated Liquor; then they pour the Liquor to be filtrated into the Paper, and suffer it to drop gradually through it, taking care not to put in too much at once, for fear of bursting the Paper. But Filtration is, also, perform'd by a woollen Bag, call'd *Hippocrates's Sleeve*, or one of Linen. The Choice of these must be directed by the Liquor to be filtrated.

FILTRUM. See **FILTRATIO.**

Filtrum is also a Name given to a rare and very precious exotic *Mexican Stone*, found at the Bottom of the Waters, at the Depth of about a hundred Yards, in some Places of the Bay of *Mexico*, where it grows like a Fungus, and petrifies in the open Air. Large Fragments of this Stone, being reduc'd into the Form of a Pot or Mortar, so as to contain Water, are highly valued on account of their singular Virtue in purifying the Water, so as to make it deposit a certain Quantity of insensible Fæces, by which it becomes purer and lighter without Diminution of its Coolness. A fuller Account of this Stone, in *French* and *Latin*, is annex'd to a physico-medical Dissertation of *Mich. Bernh. Valentini*, printed at *Strasburg*, 1702.

FILUM, a Thread, has various Uses in surgical Operations. *Filum Arsenicale*, in the Spagiric Language, is sublimate Mercury. *Rulandus*.

FIMBRIA, in Surgery, is the same as **CATABLEMA**; which see.

FIMBRIATA, fimbriated, of *Fimbria*, a Fringe, is a Term relating to the Leaves of Plants, when they are jagged on the Edges, having, as it were, a Fringe about them.

FIMUS, *μῆτος*, Dung of Animals

Neats-dung, apply'd fresh, mitigates Inflammations in Wounds; the Way is, to wrap it up in Leaves, and heat it in hot Ashes, and then apply it: Used in the same manner, it eases the tormenting Pains of the Sciatica. Rub'd on the Parts, with Vinegar, it dissolves Hardnesses, Strumæ, and Pani. The Dung of a Bull in particular, used in Suffumigations, restores a prolapsed Uterus; and, burnt, drives away Gnats.

The Dung of Goats, especially those which live on the Mountains, drank in Wine, cures the Jaundice; and, exhibited with Spices, provokes the Menses, and expels the dead Fœtus. Being dry'd, triturated, and mix'd with Frankincense, and apply'd in Wool, as a Pessary, it represses the menstrual Flux; and, used with Vinegar, restrains other Hæmorrhages; burnt, and rub'd on the Parts with Vinegar or Oxymerc, it cures an Alopecia; apply'd in a Cataplasm, with Fat, it eases the Gout; boil'd in Wine or Vinegar, it is apply'd to the Bites of Serpents, Herpes, Erysipelas, and the Parotides. They have a way of burning it, which is of Service in the Sciatica, and is thus perform'd: In the hollow Part, between the Thumb and fore Finger, where the Thumb joins to the Wrist, they first apply Wool, moisten'd with Oil, and, upon that, burning Clots of Goats-dung, one at a time, they continue so to do, till the Sensation proceeds through the Arm down to the Hip, and mitigates the Pain; this they call the *Arabian Way* of Burning.

The Dung of Sheep, apply'd as a Cataplasm with Vinegar, cures Epiphyseles, Coins, Thymi, and Acrochordones; burnt, and spread upon Cerate of Roses, it serves for the same Purposes. See **OVIS**.

The Dung of Swine, dry'd, and drank in Wine or Water, stops Vomiting of Blood, and eases inveterate Pains of the Sides; drank in Vinegar, it is effectual in Ruptures and Spasms; and, apply'd in Cerate of Roses, it cures Luxations.

The Dung of Asses, as well as Horses, mix'd with Vinegar, represses Hæmorrhages; the Dung of Cattle, which feed on Herbs, dry'd, then infus'd in Wine, and drank, is an excellent Remedy for the Poison of the Scorpion.

The Dung of Pigeons, on account of its excessively hot and caustic Quality, is properly mix'd with the Flour of Barley; used with Vinegar, it dissolves strumous Swellings; and, pounded with Honey, Oil, and Linseed, it breaks Carbuncles, and heals Ambuissions; the Dung of Hens is effectual to the same Purposes, but in a weaker Degree; it is particularly serviceable to those who have eaten deadly Mushrooms, or are affected with the Colic.

The Dung of Storks, drank in Water, is suppos'd to be good for the Epilepsy; and the Dung of a Vultur, in a Suffumigation, is said to expel the dead Fœtus.

The Dung of Mice, pounded in Vinegar, and rub'd on the Part, cures an Alopecia; and, drank in Mulsim, with Frankincense, expels the Stone; used in a Suppository for Children, it stimulates the Belly to Excretion.

The Dung of Dogs, evacuated in the canicular Season, dry'd, and drank in Wine or Water, stops a Looseness.

Human Dung, apply'd fresh, preserves Wounds from Inflammation, and, at the same time, conglutinates them; dry'd,

and rub'd on the Parts, with Honey, it is reported to give Relief under the Quinsy.

The Dung of a Land-crocodile serves the Women as a Cosmetic to render the Skin of the Face of a lively Colour, and shining. The best of this Kind is the whitest [for λευκός here I read with *Pliny*, and most Interpreters, λευκός] and friable, light, like Amylum, soon dissolv'd in a Liquid, which, when triturated, has an acid Taste, and smells of Ferment. Some adulterate it with the Dung of Starlings fed on Rice, which resembles what is genuine. Others work up Amylum, or Cimolia Terra, and, colouring it with Anchusa, pass it through a fine Leaf; and, after it is dry, reduce it to a vermiculated Form, and vend it instead of the true Dung of the Crocodile. *Discorides*, Lib. 2. Cap. 98.

FIREX. Oil. *Rulandus*, *Johnson*.

FIRFIR. A red Colour. *Ibid*.

FIRMAMENTUM, the Firmament, is either properly so call'd, being the whole visible Extent of the Heavens, and thence styl'd, in the chymical Language, *Macrocosmicum*; or, by way of Analogy, the *Firmamentum Hominis*, seu *Microcosmi*, as they express themselves. Of Man, under this Notion, *Paracelsus* treats in many Places, and especially in his *Paramonium*.

In *Crollius*, *Firmamentum* is the Light of Nature, which instructs Man in every thing naturally.

FIRMISIMUM Mineralium is Antimony. *Paracelsus*.

FISARUM. *Rulandus* explains this, *Confectio Salis Ammoniaci*.

FISSICULATIO. A Word, importing anatomical Dissection; properly, a Cutting open.

FISSURA. A Fissure, or Crack. These are either natural or morbid. Thus, the Mouth, and the Orifice of the Female Pudenda, are frequently call'd natural Fissures. Morbid Fissures are either those of the *Cranium*, or other Bones, (see **CAPUT**) or Chaps and Cracks of the Skin, which sometimes happen about the Lips, *Anus*, and other Parts of the Body.

FISTACIA. The same as **PISTACHIA**.

FISTULA.

A Sinus is, by Physicians and Surgeons, defin'd, a Cavity in the soft Parts of the Body, form'd by Pus collected in an Abscess, which removes them from their mutual Contact; and is eliminated by an Aperture, made either spontaneously, or by the Assistance of Art. The following Definition is given by *Galen*, in *Comment. 2. in Lib. Hippocrat. de officina Medici*. "So long, says he, as the Part affected has no Aperture in its Surface, the Disorder is call'd an Abscess; but, when in any Part of it an Aperture is made, so as to discharge the contain'd Matter, the Disorder is no longer an Abscess, but forthwith assumes the Name of a Sinus." But, from this Definition, it would follow, that a Sinus must necessarily be produc'd by every Abscess; but, according to Custom, a Sinus is only said to be form'd, when the Sides of the Abscess, coming into mutual Contact, in consequence of the mutual Discharge of the Pus, cannot, however, be soon consolidated, but remain, for a long time, separate; so that fresh Humours, daily collected in this preternatural Cavity, create an uncommon Difficulty of Cure. For this Reason, *Galen*, in the fourth Chapter of his *Treatise de Tumor. præter Natur.* gives the following Definition of a Sinus: "When, says he, the Pus excoriates the Parts, and separates those which contain it from such as lie under it, in such a manner, that the Pus being eliminated by that means, the separated Parts cannot recover their former State, the Disorder is call'd a Sinus." He expresses himself in the like manner in the tenth Chapter of his second Book *de Method. Medend. ad Glaucon.* for, after, in the ninth Chapter of his second Book *de Method. Medend.* he has told us, that in Suppurations the Skin is with Difficulty united to the subjacent Parts, when it is so decay'd as to resemble the Fragments of worn Garments, he immediately subjoins, in the Beginning of the next Chapter, "When the Skin is incapable of being united with the subjacent Parts, the Disorder is call'd a Sinus." *Paulus Aegineta*, in the 48th Chapter of his fourth Book, gives the same Definition of a Sinus, almost in the very Words of *Galen*.

A Fistula is, in some respects, different from a Sinus, since the former is narrower, generally continues longer, and has its internal Surface, and its Orifice, for the most part, callous. Hence *Paulus Aegineta*, in the 49th Chapter of his fourth Book, gives the following Definition of a Fistula: "A Fistula, says he, which derives its Name from its Resemblance to a Reed or Pipe, is a callous Sinus, generally arising from Abscesses;" and, in the 77th Chapter of his seventh Book, he tells us, that Fistulas generally succeed ill-cur'd Abscesses. The elegant *Celsus*, after having inform'd us, that Fistulas arise from Abscesses and Ulcers of other Kinds, briefly defines them, in the 28th Chapter of his fifth Book, to be deep, narrow, and callous Ulcers.

The Seat of a Fistula is always in the *Membrana Adiposa*; nor have we any well-vouch'd Observations of Fistulas penetrating

trating into what we properly call the Substance of the Muscles, that I know of. But, if we consider, that Pus, collected in the *Membrana Cellulosa*, and attenuated by its Continuance, and the Heat of the Body, may be lodg'd upon the Muscles, 'tis sufficiently obvious, that this Pus, being press'd by the Action of these Muscles, must be propel'd through all the adjacent Parts, and produce deep Sinuses and Fistulas of the worst Kind, especially when it insinuates itself into the Interstices of the Muscles. The thicker, therefore, the *Membrana Adiposa* is, or the more Strata of Muscles lie above each other in the suppurated Part, the more Mischief the retain'd Pus is capable of doing: For this Reason the Sinuses and Fistulas of the Abdomen are found so troublesome on account of the large Quantity of Fat situated there, between the Strata of the abdominal Muscles.

The Presence of a Sinus, or Fistula, may be discover'd by the following Means: When there is an external Aperture on the Surface of the Body, then they are easily detected by the Eye; for if a large Quantity of Pus is either discharg'd from a small Orifice, or may be evacuated by pressing the adjacent Parts, 'tis sufficiently obvious, that the Sinus, in which this Pus was contain'd, must be proportionably large. But *Celsus*, in the 28th Chapter of his fifth Book, informs us, "That it is, above all Things, highly expedient to introduce a Probe into the Fistula, that we may know how deep it is, and in what Direction it runs." By this Method, he says, we may at the same time discover, whether the Fistula has penetrated to the Bone or not; and whether the Bone is carious or sound. But, in order to discover whether, notwithstanding one external Orifice, the Fistula may not be divided into various Ramifications, he, in the same Chapter, gives the following Directions: "The Posture," says he, of the Body, informs us whether the Fistula has penetrated into more Parts than one, because, upon changing the Situation of the Body, or any particular Member, the Pus, which before stop'd, often begins to be discharg'd afresh; which testifies not only, that there is another Sinus, from which the Pus is discharg'd, but also, that it runs in a Direction contrary to the former." But the best Method of discovering Sinuses and Fistulas, together with their various Directions, is, by means of a Syringe, gently to inject tepid Water into them, which will easily insinuate itself into all their Windings: And, if the Fistula runs near the external Parts under the Integuments, the Elevation of the Skin will indicate its Course: But if the Sinus, or Fistula, should be deeper, the Quantity of the Water injected will, at least, discover the Largeness of such a preternatural Cavity; nor, in such a Case, can much more be discover'd by the Use of the Probe. Besides, if the Probe is forcibly introduced into the Orifice of the Fistula, it often makes a new Passage for itself, by lacerating the tender *Membrana adiposa*; nor, by this means, can the Length of the Fistula be discover'd, if it runs in a winding Direction.

But when Sinuses are not yet open'd, they are with greater Difficulty discover'd, especially when deep seated. All the Light we can receive in this Case, must be drawn from the Symptoms of the preceding Inflammation, and the Nature of the Suppuration subsequent to it. If, after this, a Fluctuation, and a Cavity, soft to the Touch, are perceiv'd, we may be certain, that such a Sinus is form'd. Besides, no considerable Suppuration can happen in the Body, without being soon after accompanied with a slight hectic Fever. But, in Cases of this Nature, the highest Caution is absolutely necessary, lest a latent Aneurysm, or a varicose Tumor, should be taken for a deep Suppuration. But a skilful Surgeon will not readily fall into an Error of this Kind, if he attentively considers the Origin and Progress of the Disorder. It must, however, be confess'd, that sometimes so deep Abscesses have occur'd, that the most skilful Artists have blunder'd in discovering their genuine Natures.

When Fistulas, as yet not become callous, are complicated with Ulcers, and discover'd either by the Eye, the Assistance of the Probe, or any other Means, the most expeditious Method of Relief is to make an Incision to their very Bottom, if it can be done without Danger; after which they are to be deterg'd and consolidated. But, because Patients are unwilling to subject themselves to this Operation, 'tis expedient previously to cleanse them by an Injection of some proper Liquor, or by means of Lint, cover'd with digestive Ointment. But tho' many Surgeons thrust Tents into Fistulas, with a View to convey Medicines to their Bottoms, yet, as their Hardness, or, perhaps, their too great Length, may possibly induce a Callus, or an Inflammation, or excite too violent a Commotion of the Humours, or at least, protract the Cure longer than it ought; it seems more expedient, either to abstain from them entirely, or, at least, to take good Care, that they be neither too hard, nor too long. *Belleste*, and *Cesar Magatus*, both skilful Surgeons, on account of this Abuse of Tents, entirely rejected them, not only as superfluous, but hurtful: And I myself am so far from condemning, that I rather applaud, and approve of, this Practice.

lice of theirs. Neither do I think the Use of Tents safe, except in Cases where the Conglutination of the Mouths of narrow Fistulas is to be prevented; and even in this Case they ought to be very short and soft.

Another Step to be taken in the Cure of Fistulas is; duly to press their Bottoms towards their Orifices or Apertures. For this Purpose, a narrow Compress, or a Slip of Plaister, wrapt up in that Form, is, after the Ulcer is cleans'd, and proper Medicines put into the Fistula, to be apply'd to its Bottom, and secur'd, as in other Ulcers, with Lint, Plaisters, and Bandage. As for the Method of applying the Bandage, it is most expedient to apply it first to the Bottom of the Fistula, or, at least, to make it tightest there, that, by this means, the peccant Matter may be, as it were, propel'd from the Bottom to the Mouth of the Fistula; in consequence of which, the Bottom will be conglutinated before the rest of the Fistula. This generally happens sooner in Fistulas of the Arms or Legs, than in those of other Parts, especially if their Bottoms lie towards the superior, and their Mouths towards the inferior Parts of the Members.

When Fistulas lie too deep for having their most remote and latent Cavities commodiously cleans'd, detergent Medicines are to be injected, in order to wash out the Sordes; such as Decoctions of Agrimony or Birthwort, mixt with Honey of Roses, or Essence of Myrrh and Aloes; or, which *Belleste* greatly commends, a Decoction of the Leaves of the Walnut-tree, with an Admixture of Sugar; to which we may justly add the following Preparations:

Take of digestive Ointment, prepar'd of Turpentine and the Yolks of Eggs, an Ounce and an half; of common Honey, or that of Roses or Celandine, one Ounce; and common Spirit of Wine, nine Ounces: Mix all together. Or,

Take of the Decoction of Germander, or Southernwood, or Agrimony, eight Ounces; of common Spirit of Wine, three Ounces; of the Elixir Proprietatis, or of the Essence of Myrrh and Aloes, one Ounce; and of the Honey of Roses, two Ounces. Mix all together.

Some of these Preparations are, at every Dressing, to be injected warm, and retain'd for a short time, gently compressing the Bottom and Mouth of the Fistula, that the peccant Matter may be the more effectually wash'd off; and this Method is to be persisted in, till the Bottom of the Ulcer begins to be gradually conglutinated; then we are to dress with digestive Ointment; or if this should seem too weak and ineffectual, we may, in its stead, use the Liniment of *Arcaut*, Peruvian Balsam, Balsam of Meccha, Balsam of Sulphur, Essence of Myrrh, and Aloes, Oil of Myrrh per Deliquium, Oil of Eggs; and other vulnerary Balsamics. The Regimen and Method of Cicatrization are the same as in Ulcers. See *ULCUS*.

But, if the Method of Cure already directed should prove insufficient, both for cleansing and conglutinating Fistulas, greater Relief is generally obtain'd from manual Operation, than from Medicines, especially when the Fistulas are directed downwards, or too crooked and winding; or when their Bottoms cannot be sufficiently compress'd: And, in these Cases, an Incision is to be made from their Mouths to their very Bottoms.

Some groov'd Probe is, therefore, to be gently pass'd into the Cavity of the Fistula; and, introducing a Knife into the Groove, as much of the Skin and Flesh is to be cut, as is thought safe or sufficient to answer the End; for when the Bottoms of Fistulas are laid open, the corrupted Matter is not only more expeditiously discharg'd, but Medicines are more commodiously apply'd. The Incision may also be made without a groov'd Probe, by means only of an obtuse-pointed Knife, like those in *Tab. XXVI. Fig. 4. and 5.* Sometimes one Branch of a Pair of Scissars, like those represented in *Tab. XXII. D.* are pass'd to the Bottom of the Fistula, and the Incision is made by their means. But this Method of making the Incision, unless the Skin and Flesh are tender, seems to be less commodious, and more troublesome to the Patient, than the other.

If upon making an Incision into a Fistula, a large Quantity of Blood should be discharg'd, which frequently happens, the Wound is, in the first Dressing, to be fill'd with dry Lint, and duly dress'd. Then the digestive Ointment, in Conjunction with the *Egyptian* Ointment, or red Precipitate, is to be apply'd, till the Ulcer is sufficiently deterg'd. The other Measures to be taken are the same, as in recent Ulcers. The fourth Chapter of the sixth Book of *Celsus* may be consulted, not only with respect to Fistulas in general, but also with respect to those of the Ribs, the Abdomen, and the Anus. The Fistulas happening in particular Parts of the Body are consider'd under their respective Articles. *Heister. Chirurg.*

See *ANUS*, and *THORAX*.

Belleste absolutely discards all manner of Tents and Injections in the Cure of Fistulas:

FISTULA LACHRYMALIS.

A spontaneous, or involuntary Efflux of a purulent Fluid, or real Pus, out of the greater Canthus of the Eye, or one subsequent to pressing the lachrymal Sack, is, in general, termed a lachrymal Fistula. This Disorder proceeds from an Ulcer in the lachrymal Passages, but principally in the Sack; the more inveterate, therefore, the Ulcer, the more dangerous the Disease. It is often in the Sack only, and emits the corrupted Matter out of the Puncta lachrymalia; sometimes it eats into the Skin, which covers it, and the contiguous Bones. If it does not eat into the Skin, it is imperfect; if it does, perfect; and, when it corrodes the Bones too, it is called a compound lachrymal Fistula. Here we must observe, that our modern Writers have been very inaccurate in their Descriptions of this Distemper, which seems to be owing to these two Reasons: 1. The wonderful Variety of Disorders, to which the greater Angle of the Eye is subject, occasioned a Variety of Names to the same Disorder, and sometimes the same Name to different ones. 2. The Nature of it was unknown to most Surgeons. For how few of the Antients have not derived this Fistula, either from an Ulcer of the Caruncle itself, or one under it, in it, or behind it! When it is plain, to the most experienced Moderns, from frequent and accurate Observations, that it never flows from the lachrymal Caruncle, or the adjacent Parts, but from the Sack thro' the Puncta lachrymalia. If this Error, therefore, introduced a preposterous Practice, Physicians have done well in endeavouring to correct it.

But, for our Direction, both with respect to Theory and Practice, I think it not amiss in this Place, briefly to expound their Mistakes, and lay down Rules for the Amendment of them: 1. Many term'd that a lachrymal Fistula, which we denominate an *Epiphora*. 2. Others confounded it with an *Anchilops*, and an *Ægilops*. But, before we can reconcile their different Opinions, we must distinguish clearly between these two Disorders. An *Anchilops*, then, is a Tubercle which rises between the greater Angle of the Eye and the Nose, whether it be in or near the lachrymal Sack, and whether it is attended with an Inflammation, or not. Here we may observe, that near the Sack, as well as in other Parts, there are, (1.) Encysted Tumors; (2.) Inflammations and Abscesses; and, very often, (3.) a Distention and Resolution of it, which we call a lachrymal Hernia. (See *Tab. XXXVII. Fig. 10. A B*, with *Fig. 16. and 17.*) Upon a Pressure of the Finger, this Tumor subsides, sometimes with Ease, sometimes with Difficulty; and the Matter discharges itself through the Nose, or Puncta lachrymalia, or both. The *Ægilops* is a Tumor nigh the lachrymal Sack, arising after an Inflammation or Abscess; which, by its sharp, purulent Matter corrodes the superior Skin, or the lachrymal Ducts, or the Fat near the Sinus of the Eyes, and sometimes the *Ossa plana*; and, lastly, the Parts and Bones near the Nose, often producing a destructive Caries. Sometimes, both the superior and inferior Ducts are so corroded, that Pus flows continually out of the Puncta lachrymalia into the greater Angle (see *Fig. 18. Letters a and b*). And this is properly denominated a lachrymal Fistula; for, when the clear lachrymal Fluid distils out of the Eye, it is only an *Epiphora*. What has been said, I think, amounts to sufficient Directions for the distinguishing between these Disorders; which, from their Resemblance to each other, most Surgeons and Physicians have confounded together.

See *ÆGILOPS*, *ANCHILOPS*, and *EPIPHORA*.

An *Anchilops* proceeds from various Causes; for an encysted Tumor or Inflammation will produce this, as well as other Disorders; but it generally arises from a Relaxation or Distention of the Sack; and a lachrymal Fistula is the usual Concomitant of it, because, as the purulent Matter cannot pass to the Nose, it weakens and distends the *Sacculus*. The principal Origin of an *Ægilops* is a previous Inflammation or Abscess; for these corrode the Skin, and lachrymal Ducts; whence sometimes proceeds a Fistula: But there are many others; and the principal of these is, an Ulcer in the Sack, or adjacent Parts; for, as soon as the lachrymal Ducts are corroded, the corrupted Matter distils into the Sack (see *Fig. 18.*). If the inferior lachrymal Duct (*Letters d d, Fig. 7, 8.*) is by any means obstructed, it often produces a Fistula; for it is scarce possible, but the inherent Pus will insensibly contract an Acrimony, which will relax, corrode, or at least, exulcerate the Sack. This Disorder is frequent in many, either after an Ophthalmy, or Inflammation of the Membrane of the Nose, or these Ducts; or, as I have often seen, after the Small-pox. But sometimes it arises spontaneously, without any sensible Cause.

There are various Kinds of a lachrymal Fistula: For, 1. It is Perfect, or Imperfect. Perfect, when the Skin is corroded, and Pus flows out of the lachrymal Bag, near the greater Angle of the Eye; Imperfect, when, the Skin being entire, it discharges itself only through the Puncta lachrymalia. The first Kind is visible to the Eye (see *Tab. XXXVII. Fig. 19. a b*). 2. It is Simple or Compound, when attended with a Callus, or Caries. 3. New or Old. 4. Mild or Obstinate. 5. It is either

accompanied with an Obstruction of the nasal Duct, or not. 6. It is Intermittent and Periodical, or Continual. *Garengeot*, by dividing it into the true and false Fistula, has made a seventh Species. The first, according to him, is, when the lachrymal Ducts themselves are exulcerated; the other, when the Exulceration is in the adjacent Parts; which last we term an *Ægilops*. Some, as *Signorottus*, and *Plainerus*, are of Opinion, that a Callus is requisite to constitute these Fistulae, as it is with respect to all other Fistulas. That this is a Mistake, not only the received Interpretation of the Word, but the Authority of *Celsus*, *Fallopianus*, *Cardan*, and *Wolhoufe*, and Experience itself, evince. Besides what *St. Yves*, a celebrated Oculist of *Paris*, asserts, that he seldom found a Callus, I myself have often seen inveterate Fistulae without it. Further, some think there never was a lachrymal Fistula, without an Obstruction of the nasal Duct, as that appears to them the Origin of this Disorder. But their Error is manifest, not only from the Authors I have already quoted, but from daily Experience; for I have seen many Cases, and know one at present, where the Sack, being press'd by the Fingers, has daily discharg'd Plenty of Pus through the Puncta lachrymalia, when the nasal Duct was entirely open, and it might have been expell'd through that Passage. Some say, this purulent Matter flows through one Punctum only, but are not agreed which it is; but, in reality, it passes through both: In some indeed, principally through the superior, in others through the inferior Punctum.

So much for the lachrymal Fistula, and Method of distinguishing it from Disorders which bear some Affinity to it: Let us now consider the Symptoms. The Patient complains of a frequent dropping of Tears, and a purulent Matter, especially in the Morning, is collected in his Eye, without any Inflammation: And, from a Pressure of the Finger, the lachrymal Sack emits a Pus thro' the Puncta. And we may conclude there is a Caries, when this Pus is of a bad Smell, or unusual Colour, as Green or Black; but still more, when the Bone is bare to the Eye, as in open Fistulae, or when it is found so by the Introduction of a Probe, for the Colour will deceive you greatly; and I have seen many Instances, where that has been good, yet, upon Examination with a Probe, I have found the Bone bare: But if the Disorder is inveterate, and discharges daily Plenty of Matter, we may be certain there is a Caries, the Seat of which is different; for sometimes the lachrymal Bone, sometimes the *Os Plenum*, and sometimes the Bone of the upper Jaw is corroded. We may know the nasal Duct is obstructed, if none of the Matter, or injected Fluid, passes thro' the Nose, but all flows out of the Puncta lachrymalia. Lastly, An uncommon Hardness of the Parts denotes a Callus; though, as I before observ'd, this seldom attends a Fistula. If there is an encysted Tumor, the exterior Parts swell with an Hardness, and will not yield to the Pressure of the Fingers, but there is no Inflammation; but, if the Tumor yields upon Pressure, there is a lachrymal Hernia. We know an *Ægilops* by this, that the Parts contiguous to the greater Angle are exulcerated, and have no Communication with the lachrymal Passages.

I met with an extraordinary Instance of a lachrymal Fistula in a Student, in the Year 1726. Though he had been afflicted with this Disorder for eight Years, yet no Matter could be expressed by the Fingers. A perpetual Flux of Tears dropt down his Cheeks, and, whilst he slept, his Eye was filled with a Pus, which, when any Liquid was injected into either of the Puncta lachrymalia, discharg'd itself out of the other. There was no Tumor of the lachrymal Sack; yet, upon making an Incision into the Skin, I found a Caries in the *Os lachrymale*.

These Disorders of the Eyes are generally of very bad Consequence; for, as they are near the soft, spongy Bones, they produce violent Disorders, and often a Caries. An *Anchilops*, or *Ægilops*, soon degenerate into a Fistula, which, from mild, grows obstinate and dangerous, and even sometimes cancerous; and, after a Corrosion of the Bones, it is seldom or never cured. Their Danger is increas'd by a bad Habit of Body, the Acrimony of the Matter, and an irregular Method of Diet and Living: On the contrary it is less, if the Patient is sound, and the Distemper free from bad Accidents, especially a Caries, Callus, and Obstruction of the nasal Duct; for then it is curable, whatever some may say to the contrary, within a few Days; particularly, if you follow *Ansell's* Directions. A perfect Fistula is often attended with a Caries, and can scarcely be remedied, till that is extirpated, either by proper Medicines, Incision, or cauterizing the Bone. If a Callus supervenes, the Cure cannot be completed, till that is remov'd: Without any of these, you may expect a more happy Event. The more inveterate the Fistula, the more Difficulties you have to struggle with; for here the Bones are generally corroded with a Caries, and after a Cure, without a thorough Extirpation of that, the Disorder readily returns: Though, what is surprising, some Surgeons affirm, that Fistulae, with a Caries and Callus, have been cured by Nature alone. Unless the obstructed nasal Duct be open'd, and kept so, you cannot hope for a lasting Cure;

Cure ; at least, you must expect the Continuance of a weeping Eye, tho' you have judiciously cauterized the Caries and Callus. Moreover, the compressing Instruments of the Antients, tho' they were a long time in Use, had no other Effect, than to give unnecessary Pain to the Patient ; and, from a slight Disorder, make one more considerable. Those Moderns are not without their Merit, who, by the Instruction of *Annell*, since the Year 1712, have used Methods for the Cure of recent Fistulae, or at least, those free from a Caries or Callus, without the Knife, Terebra, or Cautery ; whereas formerly they knew no other Way of proceeding.

If any Tumor, or Anchilops, with an Inflammation, arises near the greater Angle, Resolution must be immediately attempted, to prevent an Abscess or Fistula. First, therefore, anoint the Tubercle with a soft Pledget, or your Finger, dipt in Spirit of Vitriol ; but be careful not to touch the Eye. It is of great Service, to anoint the Parts with Honey of Roses mixt with Spirit of Vitriol, to some degree of Sharpness, and upon this lay a Diachylum-plaster ; nor is it less beneficial to apply often a Compress, moistened with warm camphorated Spirit of Wine, or a Poultice of roasted or boiled Apples, mixt with Camphire, till a Resolution ensues. If the Tumor is encysted, treat it as an encysted Tumor (see TUMOR) : For, in that Manner, I extirpated a Tumor, which lay deep in the Orbit of a Girl, with my Incision-knife.

But, if the Inflammation tends rather to a Suppuration than Resolution, promote that ; for, by Delay, it may degenerate into a pernicious Fistula. This is done by the Application of a Diachylum-plaster with the Gums, or an emollient Cataplasma. As soon as the Matter is come to Maturity, to prevent a Corrosion of the Sack, or adjacent Parts, the inferior Part of the Tubercle must be cut with a Lancet, or Incision-knife ; and, when the Pus is express'd, cleanse the Abscess thoroughly with Oil of Bricks, a digestive Ointment, or Honey of Roses, mix'd with Myrrh, and a proper Proportion of *Egyptian* Ointment, or red Precipitate ; then heal the Ulcer with some proper Balsam, as in other Abscesses. But, if the Abscess breaks spontaneously, as I have often seen it, and the Aperture is so narrow, that it cannot be cleans'd, enlarge it by Incision, by introducing a Sponge, or a Piece of Gentian-root ; and, after this, cleanse and heal it, as we directed before. If there is a Caries, apply Lint, moisten'd with some Drops of Spirit of Sulphur, or Vitriol ; or, instead of this, with Powder or Essence of Euphorbium ; then lay on Compresses, moisten'd with cooling Liquids, or Lime-water ; and, when the Caries is remov'd, the Wound will be fit for healing : Sometimes the Caries may be taken off with a Rugin (see *Tab. XXVIII. Fig. 3, 4, 5. or Tab. XXXIX. Fig. 9.*). Some prefer the Use of the Cautery, guarded in a proper Canula, as that (*Tab. XXXVII. Fig. 21, 22.*), or one of the like Kind ; and afterwards they apply balsamic Medicines, to heal the Wound.

The Manner of curing the true Fistula lachrymalis (when the Ulcer is in the lachrymal Passages) varies according to the Nature, Degrees, and other bad Accidents, of the Disorder. For, when it is recent, when there is a good Habit of Body, the external Skin not yet corroded, and the nasal Duct still open, lastly, when the Matter is of a good Colour, and due Consistence, forbear Incision, and the Application of the Cautery, as this may be cur'd without any chirurgical Operation, by frequently pressing the Matter out of the lachrymal Sack, with your Fingers, which will prevent it from contracting any Acrimony, and corroding the adjacent Parts. You must, at the same time, use the resolvent and cleansing Medicines prescrib'd for the weeping Eye, under the Article *Epi-phora* ; not neglecting, according to the Patient's Habit of Body, Purging, Bleeding, Scarification, Vescatory, and other Medicines, as the Case shall require, and a regular Method of living and Diet.

DIONIS, in his Book of Surgery, mentions several Cures of recent Fistulae lachrymales, particularly in Infants, which he himself had perform'd by a proper Compression. His Method was this : 1. He laid a little Plaster of burnt Ceruse upon the Tubercle of the Fistula. 2. A small triangular Compress, an Inch thick, (or, instead of that, several thin ones) to fill the Angle exactly near the Eye. 3. Another such Compress, but something larger ; having first moisten'd them with Lime-water, or Spirit of Wine, or some other drying Liquor. Lastly, he fasten'd them on with a circular Bandage, so firmly, that he prevented any Collection of the vitiated Humour from being form'd within, and restor'd the relax'd Sack to its former Shape and Strength. DIONIS orders this to be continued for many Months, if you would complete the Cure. But, instead of his Bandage, others have us'd proper compressing Instruments ; some of which are recommended by *Aquapendente*, *Scultetus*, *Pöissy*, and *Heister* (see *Tab. XXXVII. Fig. 20.*) and others by other Surgeons : Though all these Ways of Compressing are in vain, if the lachrymal Duct is stopp'd ; for it can never be of any Service, but when the Abscess is near the lachrymal Sack, (as in *Tab. XXXVII. Fig. 18.*) or, at least, when the lachrymal Duct is yet pervious.

But, since this last Method will not cure an inveterate Fistula in a Patient who has been long afflicted with it, or is of a bad Habit of Body, the Surgeons, before *Annell*, were of Opinion ; and still are, that the Tubercle should be open'd, between the greater Canthus and the Nose ; either with some corrosive Medicine, or, rather, a Lancet, or Incision-knife ; in which Operation they advise the utmost Care, lest the Ducts proceeding from the Puncta lachrymalia to the Sack, or the Ligaments, restraining the Eyelids, should be cut, and the Eye greatly deform'd. Some direct an oblique Incision, as *Fig. 9. Tab. XXXVII.* from *d* to *e* or *c*, or *Fig. 10.* from *B* to *A*, with a straight Incision-knife ; others, with a crooked one ; which, to me, seems indifferent, as I have used both successfully. This Incision must reach the Cavity of the lachrymal Sack, which must be dilated, in the Direction above-mention'd, upwards and downwards, with the Knife, from the Top of the lachrymal Sack to the bony Canals. The Cavity must then be fill'd with Lint, laying Compresses over it, and fastening all with a Bandage. Others would have the Incision semicircular, with the concave Part tending to the Eye, and the convex to the Nose, beginning at the lower Part of the Apophysis of the Os Frontis, call'd the nasal Apophysis, where it touches the maxillary and lachrymal Bone, (a Part well known in the Head of a Skeleton) proceeding in the Form of an Arch, according to the Direction of the nasal Apophysis of the maxillary Bone to that Part, where it almost touches the interior Apophysis of the Os jugale (see *Tab. XXXVII. Fig. 19.* the prick'd Line *c b*). When this Incision is sufficiently enlarg'd, they fill it with Lint, and bind it up, leaving it till next Day, that it may be well dilated ; then examine, not only whether there is a Caries, but how, and where, they may best perforate it. If there is too large an Haemorrhage, they apply Lint, dipt in strong Spirit of Wine, and then a Compress, and fasten them on tight with a Bandage. Then they deterge it with Essence of Amber, Oil of Bricks, or other Medicines of the same Kind, as directed above, in case of an *Aegilops*. When it is thus cleans'd, they apply vulnerary Balsams, and drying Plaisters, with thick triangular Compresses, and Bandage, as mention'd above, and heal the Wound gradually. Some use the compressing Instruments before-mention'd, with a Plaister, and small Compress ; and then heal the Wound, though very seldom with Success, as the nasal Duct is generally obstructed.

The ancient Method of curing a callous Fistula was, after having open'd the Ulcer, first, to extirpate the Callus, with *Trochisci de Minio*, red Precipitate, *Egyptian* Ointment, or the Lapis Infernalis ; then to treat it as before directed. If it was carious, they apply'd Powder of Euphorbium, with Lint dipt in Spirit of Sulphur, or of Vitriol. As this was seldom effectual, they remov'd the Caries with the Knife, as we observ'd above, or with a Cautery, which they repeated, as often as was requisite. The Shape of the Instruments was varied, as the Surgeon pleas'd. Some were without a Tube (as in *Tab. XXIV. Fig. 14. and 16.*). Others, to prevent burning the Skin, had a small Tube, which was introduced into the Ulcer as far as the Bone, and then through that they pass'd the Cautery ; such a one I have copied from *PLATNERUS* (*Tab. XXXVII. Fig. 21. and 22.*). Then they resolv'd the Eschar, rais'd by the Cautery, by the Application of a digestive Ointment ; and proceeded to heal the Ulcer by the Application of vulnerary Balsams, in the Method already laid down. It is not only proper in this Operation to bind up the sound Eye, that the Sight of the Cautery may not terrify the Patient, but likewise to cover the affected Eye with an Instrument of a spiral Form, (see *Tab. XXXVII. Fig. 23.*) that it may not be touch'd. Observe always to dry the injur'd Bone thoroughly with Lint, before you apply the Cautery ; otherwise it will be extinguish'd too soon. But none of these are effectual, when the nasal Duct is obstructed ; for, unless the Bone is perforated accidentally, or designedly, to the Nostrils, and a new Passage open'd for the Pus, it is so far from dropping into the Nose, that the Disorder returns, or, at least, a weeping Eye remains. If this is the Case, which the ancient Writers do not deny, it is manifest, in my Opinion, that the above-mention'd Methods of Cure are principally serviceable, when there is only a Suppuration on the Outside of the Saccus lachrymalis, or when the nasal Duct is pervious. Distinguish therefore, carefully, between these Fistulae, and those wherein the nasal Duct is obstructed.

To supply this Defect in Surgery, some took another Method : They open'd the Saccus lachrymalis, and, next Day, perforated the Os Unguis, with a sharp Instrument, (see *Tab. XXXVII. Fig. 24. or Tab. XXVIII. Fig. 7. A ; or Tab. XLV. Fig. 2. B*) obliquely, between the superior and inferior Os Spongiosum, even to the Nose ; then they put a Tent into the Aperture, form'd a new lachrymal Duct by Tents, and a frequent Introduction of Probes into the Nose. When this was form'd, they heal'd the external Wound. Others forbore the Use of Cauterics, but perforated the Bone with the Instruments already mention'd, or a sulcated Probe : Thus they remov'd the Caries, and open'd a new lachrymal Passage into the

the Nose by the same Operation. Again, others, having laid a Tube (*Tab. XXXVII. Fig. 22.*) on the Os lachrymale, apply the Cautery (*Fig. 21.*) in such a manner, as to perforate the Bone to the Nose; then proceed as we have already directed. Though all these Methods are very troublesome, and subject the Patient to a weeping Eye, yet, for want of better, the most experienc'd Moderns have been oblig'd to follow them. *St. Yves* himself, the celebrated Oculist at *Paris*, as appears from his Treatise on the Disorders of the Eye, as well as several others, pursu'd this Method.

Since Persons of Distinction are not easily induc'd to undergo this Operation, on account of the Pain of Incision, Trephuration, and Cauterizing; and are likewise deter'd by the Danger of an unseemly Cicatrix, and unsuccessful Cure, especially under the Hands of an ignorant Surgeon; the most ingenious *Amell* thought it worth while to invent a new, safer, and more tender Method, for curing the most Serene Duke of *Savoy*, in the Year 1712. which he perform'd with so much Success, that not only a new, but sometimes an inveterate Fistula lachrymalis, where there was neither Callus nor Caries, has been often cur'd without the Knife, Cautery, or the troublesome Bandage, before us'd. I shall, therefore, now give a very exact Account of his Process.

He made a peculiar thin crooked Probe, of Silver Wire (see *Tab. XXXVII. Fig. 11, 12, 13.*): Then plac'd the Patient on a Seat opposite to the Light, in the most commodious manner; and, elevating the upper Eyelid sufficiently with one Hand, he introduc'd the Probe with the other, in the tenderest manner, through the upper Punctum lachrymale, (which ought to be well known to a Surgeon) into the Saccus. For the more ready and easy Performance of this, the Operator should be well acquainted with the Figure and Situation of the Parts. Then, with the same Care, he directs the Probe to the Nose; after this, he elevates the Handle a little; and, by a gentle Motion, dexterously forces the other End, inherent in the Saccus Lachrymalis, down into the Nose, and opens the nasal Duct. But it is far more easily open'd, when it is obstructed only by Matter, than when it is grown together, as is very common in inveterate Fistulae. For, in the last Case, the Violence must be so great, that the Patient feels an acute, though not an intolerable Pain, and the Nose bleeds. To prevent a second Obstruction in the lachrymal Duct, he injected a Liquid, with a Syringe, not only Morning and Evening, but more frequently, if Occasion requir'd; and repeated it, till no more Pus return'd through the Puncta lachrymalia; whence he concluded the Ulcer to be healed, and the nasal Duct restor'd to its former Integrity.

Garengot was unacquainted with the real Use of these Probes; for he thought they did not open the nasal Duct, but only serv'd for searching the Saccus lachrymalis.

The Injection should be made with the little Syringe of *Amell*, (see *Tab. XXXVII. Fig. 14.*) or one like it; for the anterior Part, or small Tube, of it A, about the Thickness of an Hog's Bristle, is pass'd into the Punctum lachrymale of the lower Eyelid, as less moveable; and the contain'd cleansing and healing Collyrium (see *EPITHORA*) is to be injected into the Saccus Lachrymalis. By frequent Repetitions of this, the Pus is discharg'd, and the new lachrymal Duct kept open. For the more commodious Performance of this, let the Patient be plac'd in a Seat opposite to the Light, with his Head erect, or a little inclin'd; and, if the Right Eye be disorder'd, let the Surgeon stand on the Right Side; and, when he has fill'd his Syringe with a proper Liquor, those, for Example, mention'd under the Article *EPITHORA*, lay the Ring-finger of his Left Hand on the inferior Eyelid, immediately under the lower Punctum lachrymale, near the Saccus. By this Method, he brings down the Eyelid; which will not only render the Punctum more conspicuous, but make the Introduction of the Syringe more convenient. This Finger, likewise, will keep his Hand steady. After this, he takes the Syringe, at the posterior Part C, in the middle and fore Finger of his Right Hand; then he puts the inferior Part D between the same Fingers of his Left Hand, which are already under the Patient's Eye, and holds them fast. Then the extreme Part A is carefully introduc'd into the inferior Punctum lachrymale, the Head of the Pistil B being press'd by the Right Thumb; and thus the Liquor is forc'd through the Punctum into the Sack, nasal Duct, and Nose. But it must be confess'd, all this may be made more intelligible by seeing the Operation, than by any Description. We must observe, that whatever Liquor is inject'd into the inferior Punctum lachrymale, immediately returns, either by the superior, or flows through the nasal Duct into the Nose, and the very Fauces. If the Left Eye is to undergo the Operation, let the Surgeon stand on the Left Side, and proceed according to the former Directions. I have, sometimes, by way of Variety, inject'd into the superior Punctum: In order to this, I plac'd the Ring-finger of my Left Hand above it, and pull'd the superior Eyelid upwards, till I plainly saw it; then introduc'd my Syringe, and inject'd the Liquor with the same Facility as

the other Way. Here Dexterity, and Quickness of Sight, is very requisite. However, the first Method is the most convenient.

This must be repeated daily, till (1.) The Injection penetrates into the Nose voluntarily, without the Help of the Probe. (2.) Till no purulent Matter proceeds from the greater Canthus, either voluntarily, or after Compression with the Fingers. Then you may conclude your Operation has been successful. And this happens sooner in some than others; for, sometimes, the Cure is perfected in four, eight, fourteen, or twenty Days; sometimes it requires a longer Time; though no Fistula is so obstinate, but that this Method will extirpate it, provided there is no Caries or Callus. I have myself, indeed, often cur'd these Fistulae in three or four Days, by this Process; and, from a singular Experiment, found, that a slight Caries may be remov'd by it. I remember, in the Year 1727. I freed a Girl of eleven Years old, by continuing this Injection daily about six Months, of an inveterate Fistula, and slight Caries, who is now married, and perfectly well.

I must confess, that this Method, invented by Mr. *Amell*, as here describ'd by *Heister*, appears perfectly rational, and well calculated to answer the End propos'd: And *Heister*, no inconsiderable Practitioner, affirms, that, with him, it has succeeded beyond all others. Mr. *Sharp*, however, a competent Judge of chirurgical Operations, seems to disapprove it, for Reasons not drawn from his own Experience, as it appears; which renders them the less valid. This Author informs us, that, "Some Years since, Monsieur *Amell*, a French Surgeon, recommended, in the recent Fistula, to pass a small Probe through one of the Puncta lachrymalia, into the Saccus and Nose, in order to break the Concretions which are suppos'd to make the Obstruction; and, with the small Pipe and Syringe, to throw an Injection through the other, in order to wash them away. This Method was, at first, receiv'd with great Applause; and still continues to be practis'd by some very eminent Surgeons: Yet, by what I have been able to learn from the Experiments of others, and the Reason of the Thing, I am, by no means, inclin'd to think favourably of the Invention; for, as the very Characteristic of this State of the Fistula is the Reflux of the Tears from the Saccus, the Channels leading to it from the Puncta lachrymalia must be suppos'd clear; and, as to the Obstruction in the nasal Duct, an Injection, thrown with so little Force, can hardly be imagin'd sufficient to remove it; and still less, if it be true, that the Obstruction is not owing to any loose Substance clogging up the Passage, but to an Inflammation of the Membranes."

"If, then the Injection cannot assist, by the Force of its Stream, the Advantage must arise from its balsamic Qualities. But no Surgeon, at this time, dilates an Abscess of any Kind by Injections, when the Pus is good-condition'd, and he can, by Compress, diminish the Cavity of it, as may be done in this very Case, and which should be practis'd before any other Method is undertaken. Indeed *Amell*, and his Followers, after the Injection, applied a Compress and Bandage, to the good Effects of which, rather than any of the other Processes, I am inclin'd to think their Success was owing."

After comparing the Reasons here given, with the Sentiments of *Heister*, given above, and what is farther said below, relative to this Method, the Reader will readily distinguish when it is likely to succeed, and when not; and may judge for himself, which of the two Authors above-quoted is in the right.

When a Fistula lachrymalis is perfect, that is, when the external Skin is corroded, the obstructed lachrymal Duct may be more easily open'd; and, in this Case, it is better to pass the *Amellian* Probe through the external Fistula, directed downwards, through the nasal Duct, than through the Punctum lachrymale; and this with the thick End *b* (*Fig. 12.*). Sometimes I have even open'd the nasal Duct effectually with the Probe *K* (*Tab. 22.*). For cleansing the Ulcer, proceed according to the former Directions; except, that a Lenden or Wax Tent is more commodious than a Linen one; and the nasal Duct must be carefully touch'd every other Day with the Lapis Infernalis, in the Shape of an inverted Cone, till its Sides are sufficiently harden'd, and render'd fit for healing; but, when the external Aperture of the Ulcer is united, you must continue the Injection for keeping the nasal Duct open some time. *Garengot*, in his Book *de Operat. Chirurg.* tells us, that *Petit* us'd a thick wax'd Thread instead of a Tent, and that it prov'd effectual. When the Os Unguis, in these Cases, is corrupted, the Aperture of the Ulcer must be dilated, the Caries taken off, or the Bone perforated.

In a Fistula not attended with an Obstruction of the nasal Duct, frequent Expurgation of the Matter by a proper Injection is more serviceable than the Introduction of the Silver Probe. When, likewise, the Saccus lachrymalis is too lax, apply strengthening Medicines, or compressing Instruments (see *Tab. XXXVII. Fig. 20.*), or others, delineated by *Fabricius*

ab Aquapendente, Scultetus, Palfy, and others, which, by degrees, restore it to its former Vigour.

It is a great Mistake to imagine the *Annellian* Method infallible in every Fistula; for when it is accompanied with a very hard Callus, or inveterate and large Caries, all his Injections are of no Service; nor have we yet discover'd Medicines that will answer this Purpose. It, likewise, frequently happens, that the nasal Duct can neither be kept open, nor a continued Increase of the Pus be prevented, or that the *Annellian* Injection cannot be transmitted to the Nose, though it is pervious to the Probe. I have seen several Instances of this, though I could never conceive the true Reason. If, therefore, any thing of this Kind happens, and the Patient has, notwithstanding, an Inclination to be cur'd, our only remaining Hope is in the Use of the most effectual Methods propos'd above, for making a new Passage to the Nose, and extirpating the Callus and Caries; or in the new one we shall presently describe. Some are of Opinion, that the Caries sometimes penetrates so deep into the *Ossa spongiosa* of the Nose, that it can neither be remov'd by Medicine nor Cautery: But this I never found. And, indeed, it may be so far mitigated, that, by forming a new nasal Duct, in the manner already mention'd, the Matter may be brought to the Nose, which before discharg'd itself at the Eye, with inexpressible Agony to the Patient; especially if proper Injections are continued for some time after.

The celebrated *Brunner*, Physician to the Elector Palatine, assur'd me once, by Letter, that he had cur'd a very bad Fistula lachrymalis by a Mercurial Injection.

We have already said, that in an imperfect Fistula, that is, when it is conceal'd under the Skin, the external Skin should be cut through, before we perforate the *Os Unguis*. To render this Operation more expeditious, and less troublesome, a Surgeon of *Hamburg* invented a peculiar Instrument, (see *Tab. XXXVII. Fig. 24.*) which, at the same time, would perforate the external Skin, the Saccus, and *Os Unguis*; after which he took care to form the new nasal Duct by the Introduction of a Tent, as before directed, and heal'd the external Wound. Since that time, as this new Duct has been often found to coalesce, some, after the Method of *Wolhouse*, instead of the Tent, have pass'd a Lead, Gold, or Silver Tube (see *Tab. XXXVII. Fig. 25.*) through the *Os Unguis*, into the Nose, and, after uniting the external Wound, left it there, to prevent a second Obstruction: This I have done often, with the desir'd Success, though I us'd a Tube somewhat larger, (*Fig. 26.*) that the Passage might be wider, and then heal'd the Ulcer.

The Royal Academy of Sciences at *Paris*, in the Year 1729. publish'd another Method. The Inventor *Lamotier*, according to the old Practice, made an Incision into the Saccus lachrymalis with a Knife; then introduc'd a peculiar Forceps, with a sharp crooked Beak (see *Tab. XXXVII. Fig. 29. A*); and with this perforated the *Os lachrymale* to the Cavity of the Nose. Next, that this Passage might be large enough, (which is absolutely necessary, to prevent a Coalition) he dilated his Forceps a little (see *Fig. 30.*) and with that lacerated the *Os lachrymale*, and internal Membrane of the Nose. Having remov'd the Forceps, he dress'd up the Wound with Lint, and a digestive Ointment; on the third or fourth Day, instead of the Tent, he introduc'd into this Duct a small crooked wax Candle, of the Thickness of a Straw at least, and with a little Head, (see *Fig. 31. A B*) which he order'd to be kept there for thirty-five or forty Days, till the Duct is completely form'd; then he extract's it, and heals the Wound.

Jo. Casp. Schobinger, of *Saintgall* in *Switzerland*, in his Dissertation de *Fistula lachrymalis*, *Basil. An. 1730.* describes *St. Yves's* Method. It is this: After the Patient is seated, the Skin about the greater Angle of the Eye is gently extended, as in opening a Vein; and that, with the Saccus lachrymalis, is cut into obliquely with a Lancet, from the Eyelids towards the Tendon of the orbicular Muscle*, and, by introducing a Piece of prepar'd Sponge, which is to continue all Night, the Wound is dilated; and is then cover'd with a proper Plaster. Next Day, upon the Removal of the Dressing, the State of the Wound and subjacent *Os Unguis* is examin'd into, by an Injection, or Probe, and an Inquiry made, whether the Bone is carious. After this, the Surgeon supports the Patient's Head with one Hand, and with the other carefully and obliquely perforates the *Os Unguis*, towards the Nose, with a strong Probe, or Trocar (a Needle, or Spike rather, with a triangular Point). He must know exactly the Situation of the *Os Unguis*, lest he should perforate the *Os Planum* instead of it, or enter into the nasal Apophysis of the maxillary Bone, or the Sinus thereof: Further, let him be careful, that his Instrument is directed so obliquely, that, having perforated the *Os Unguis*, it may pass

into the Middle of the Nose, between each Lamina of the *Ossa spongiosa*. Then he orders the Patient to inspire, (or rather expire) through his Nostrils, that he may know, from the Breath and Blood coming through the Wound, whether the Perforation has been properly conducted. When he finds his Process so far right, he endeavours to keep it thus, and dilates it a little by the Introduction of a small wooden Wedge into the Wound; then lays upon that a Plaster; he continues the Dilatation for some Days, with Tents of wax'd Linen; these he changes every third Day, and, by degrees, applies thicker (though the thickest does not exceed the Size of a Quill); then he gradually returns to his originally thin ones. By the Help of these, he affirms, that the corrupted Bone, without the Use of a Cautery, spontaneously separates, and a new Passage is procur'd from the Saccus lachrymalis to the Nose. If there appear any Splinters and Asperities during the Cure, they must be taken away. If there is a Sinus, it is to be open'd with the Scissars, and Ulcers of the Membrana Schneideriana, and Saccus lachrymalis, are remedied towards the End of the Cure, by a repeated Application of the Lapis Infernalis. At every Dressing, whilst the Nostrils are stop'd, let the Patient respire thro' this new Passage, that he may expel the Pus, which, perhaps, may be collected and stagnate there; and the Surgeon is to introduce a fresh Tent, first dipt in Oil†, and on that lay a Plaster. When the Sides of the Duct are sufficiently confirm'd and consolidated, the Tent is omitted, and the Wound heal'd by a Plaster only, which, as he says, is generally completed within six or eight Weeks. "Repeated proper Injections, towards the Conclusion, or after the Cure," (I suppose he means thro' the *Punctum lachrymale*) "if they penetrate the Nose, will shew whether the Operation has had its desir'd Effect."

I must here observe, that *Schobinger* says, *Annell's* Method of curing a Fistula by Injections is grown obsolete, and almost forgotten, because it requires the utmost Industry and Dexterity. I agree with him, that it is buried in Oblivion among those, who are incapable of performing it; but, for my own Part, I have often used it, and found no Difficulty in the Operation; but, from the Description *Schobinger* gives, it is probable he had some Difficulties to struggle with, from his Ignorance of the proper Manner of proceeding.

Garengot, likewise, in his *Operat. Chirurg.* passes it by in Silence, as of no Consequence; and, in his Treatise of *Chirurgical Instruments*, speaks of it with so much Indifference, that it is manifest he never try'd it: And the Probe he there represents for this Use, is made so slender, weak, and, in consequence thereof, so ill towards the superior Extremity, that it can never perforate the obstructed nasal Duct; and he has represented the Extremity of the Tube of the Syringe so small and slender, that it would rather prick like a Needle, if applied to the Eyelids. Lastly, he recommends a *Speculum Oculi*, in using these Injections, contrary to *Annell's* and my Description; and has exhibited two for this Purpose, which rather impede than assist the Operator, the Whole being better performed by the sole Application of the Fingers, as I have already said, than by the *Specula*; and this I am convinced of by numberless Experiments. *Garengot*, also, affirms, that the Probe cannot pass into the nasal Duct, because the Passage is too much winding; but it is a sufficient Answer to this, that the Probe has actually, in a great many Instances, pass'd the nasal Duct, and still is found by Experience to do so; tho', perhaps, a Person not furnish'd with a sufficient Degree of Practice, or Knowledge of the Part, or who is unattentive to the true Method of performing this Operation, might meet with some Difficulty. As a further Proof, that this Method is not only possible, but very easy, I have practis'd it upwards of twenty Years with Success, upon many of my Patients, only from having read it, without once seeing it put in Execution; and several Surgeons have come from remote Places, as *Hamburg*, for Example, to me at *Helmstadt*, to see and learn this Operation, which they before, having frequently attempted in vain, thought impossible; and then, after I had shewn them the Method of performing it often, they could readily imitate it. I once attended a Student of Divinity, who, when I had for some time every Day, and oftener, introduced this Probe through the *Punctum lachrymale*, and obstructed nasal Duct, into his Nose, with very little Pain, himself attempted it before a Looking-glass, and succeeded; and he soon did it, by a dextrous Motion of the Probe, in the Sight of many Students, more readily than I could; so that, when you would think the Probe scarce touched the *Punctum lachrymale*, it had enter'd the Saccus, and nasal Duct; and he would leave it for Hours, without any Inconvenience, in the lachrymal Passages and Nose, to keep it open. I have been the more prolix in this Account,

* Here *Heister* remarks, that the Description seems obscure; for, when he says, From the Eyelids, we are certainly told in which Eyelid the Incision should be begun; but, in my Opinion, he means the inferior.

† All other Surgeons declare against the Use of Oils in any Disorder of the Bones, as prejudicial: I am surpris'd, therefore, that he should recommend them for an Injury of the softest; nor does he tell us what Oil we may securely apply. I think it, therefore, safer to dip the Tent into Spirit of Wine, or rather some vulnerary Essence.

both to refute the Impossibility, and evince, that *Garengot* was not only unacquainted with this Operation, but an entire Stranger to the true Use of this Probe, when he says, it is of Service only to discover the *Saccus lachrymalis*; whereas the principal Design of it was, to open the obstructed nasal Duct, both in a weeping Eye, and a *Fistula lachrymalis*; and, in these Disorders, it seldom fails. Lastly, he makes no mention of the Inventor *Ansell*; for what Reasons, let others determine.

The different Methods us'd by different Surgeons for the Cure of this Disorder are remarkable; nor do they vary so much in their Treatment of any other Case whatever.

It now remains, that I should briefly explain my own Method: I begin, then, with the gentle one of *Ansell*, especially in recent Fistulas; and pursue it for several Days or Weeks, according to the Nature of the Disorder, particularly when I find it diminish. When this is not effectual, I have recourse to the Knife, and, carefully covering both Eyes, make an oblique Incision thro' the external Skin into the *Saccus lachrymalis*, in such a manner, that I may next Day, without any Impediment from the Blood, perforate the *Os Unguis* to the Nose sufficiently with the Instrument (*Tab. XXXVII. Fig. 24. or Tab. XLV. Fig. 2.*) and this, for Reasons already assigned, with the utmost Caution; then, after washing the Wound with warm Wine, I insert first a Tent dipt in balsamic Medicines; and, after the second or third Day, a Wax-candle, or leaden Tent somewhat larger, to fill up the new Passage, about the Thickness of the Instrument (*Fig. 21. A. Tab. XXXVII.*). This I continue, till the Canal is confirm'd; for the more speedy Promotion of which, I touch the Lips every other Day, after extracting the Tent with the *Lapis Infernalis*: This I do for three Weeks or a Month, and longer, if it is requisite; then I heal the Wound, if the Duct is large enough, without the Insertion of a Tube; and, if I do leave one in, it is either of Lead or of Gold, and short, (see *Tab. XXXVII. Fig. 25.*) such as *Platnerus* has delineated; but, as I have found these too small to admit the viscid Humour, I generally use a larger, as in *Fig. 26.* in such a manner, that after applying a balsamic Medicine, and Plaster, the *Saccus lachrymalis*, and external Skin, may be properly healed. That this Cure may succeed the better, the Day after the Wound is closed, I inject a Decoction of *Veronica*, with *Ansell's* Syringe, through the Punctum lachrymale; and this I repeat for some time every Day, to point out a Passage for the Tears through that Tube. Tho' these Tubes are generally large enough to admit the Matter into the Nose, yet it must be confess'd, that in considerable Fistulas, especially when they are narrow, they do not fully answer the End, but sometimes leave some Inconvenience behind, and, principally, a weeping Eye: However, I never used the Cautery to these, and think it rarely necessary; though it is so * often recommended by so many Writers: But I prefer the making a new Canal, with the Instruments already mentioned, large enough to prevent a second Obstruction; for this will extirpate a Caries of the *Os Unguis*, without a Cautery. Hence it is manifest, that, when the Tube is too narrow, the Cure can never be complete.

Lastly, it may not be improper to add here some Cautions: And, first, in the Beginning, where an Incision is necessary, I think Purging proper, and Bleeding, if the Patient is too full of Blood; which should be repeated, after the Cure when there is an Inflammation, which, however, seldom happens. 2. If there is an ill Habit of Body, I prescribe purifying Medicines, as a Decoction of the Woods, with a proper Purge. 3. If there is any other Distemper, it should be cured by proper Methods. 4. I perform this Operation, whilst the Patient is standing; *Platnerus* sitting, as for a Cataract. 5. He orders, that in this Incision the Periosteum be separated from the Bone; and the *Saccus lachrymalis*, by a transverse Incision, from the *Os Unguis*: But, as I cannot see any Reason for this, I never did it, and yet have succeeded: For what can be done by one Operation, does not require more. 6. For a Hernia of the *Saccus lachrymalis*, when the nasal Duct is open, *Platnerus* advises to make an Incision into it with a Knife; and afterwards to heal it with Balsam of Mecca, which will strengthen it by a Cicatrix. I have done the same thing in the like Case; but, for some time after the Incision, I touch'd the Lips of the Wound every Day with *Lapis Infernalis*, and then heal'd it, strengthening the *Saccus lachrymalis* afterwards by injecting a Decoction of *Veronica*, with a little Spirit of Wine. 7. When the *Os Unguis* is carious, I only perforate that with a Cautery, as the Antients directed; *Platnerus* says, it ought to be cauterized often to the very Nose; but, as he gives no Reason for this cruel Method, and the Cure may be completed without it, I prefer the milder Way. 8. *Garengot*, in an Incision of these Fistulas, will have the less oblique Muscle of the Eye cut out, if it appears to be depriv'd of its Fat; but, as he too does not back his Opinion with any Reasons, I must dissent from him, as it may prove

* *Galen* tells us, *de Comp. Pharmac. sec. locus, Lib. 5. Cap. 2.* that they pour'd melted Lead through a Funnel upon it.

prejudicial to the Eye. 9. *Garengot* also denies, that, by perforating the Bone, you can preserve a new Passage to the Nose; and, consequently, that after the Operation, the Tears cannot pass thither: And, he further asserts, that the Puncta lachrymalia become useless; but this contradicts the Experience of the best Surgeons, and is a manifest Indication, that he is not conversant in the Disorders of the Eye. For which Reason, he has taken no notice of the Methods propos'd by *St. Ives*, *Wolhouse*, and *Lamorier*.

FISTULARIS. Fistular, in Botany, is an Epithet for Flowers, which are compounded of many long, hollow, small Florets, like Pipes.

FISTULARIA. A Name for the *Pedicularis*; *pratensis*; *purpurea*.

FIXA. Fix'd Substances; that is, such as do not ascend, and fly off, when expos'd to a considerable Heat.

FIXATIO. Fixation, is the rendering any volatile Substance fix'd, so as not to fly off, upon being expos'd to an intense Degree of Heat.

FLABELLUM Marinum. A Name for the *Keratophyton*; *maximum*; *cinereum*; *elegantissime reticulatum*. It is thus call'd on account of its Resemblance to a Fan, *Flabellum*.

FLAGELLATIO. Flagellation. For the Effect of this on the muscular Parts, see **FIBRA**.

FLAMMULA Jovis. A Name for the *Clematitis*; *sive Flammula*; *surrecta*; *alba*.

FLAMMULA is, also, a Name for several Species of the **RANUNCULUS**.

FLATUARI. Chymists.

FLATUS. Flatulencies; that is, Air contain'd in any Cavity of the Body, and rarefy'd by the Heat of the Part: Hence Distentions, uneasy Sensations, and, frequently, Pain.

FLAVII Clementis Medicamentum. The Name of a Medicine for the Gout, describ'd by *Aetnarius*, *Meth. Med. L. 6. C. 8*.

FLEMEN. A Tumor about the Anles. But it sometimes imports callous Sulci, or Furrows, in the Hands or Feet.

FLERESIN. A Name for the Gout.

FLEXOR. A Name apply'd to many Muscles, which are so call'd from their Office, which is to bend the Part to which they belong.

FLEXOR CAPITIS. See **RECTUS INTERNUS MAJOR**.

FLEXOR CARPI RADIALIS.

This ariseth tendinous from the internal Extuberance of the *Os Humeri*; and, becoming fleshy, adheres strictly to the *Pro-nator Radii Teres*; and in half its oblique Progress to the Carpus, it becomes a flat Tendon, which passes under the annular Ligament, and is inserted into the upper Part of the *Os Metacarpi*, which sustains the fore Finger.

FLEXOR CARPI ULNARIS.

This ariseth partly fleshy, but principally tendinous, from the same Tubercle of the Shoulder-bone with the former, as also from the superior and external Part of the Ulna, where the *Musculus Perforans* arises; and, continuing fleshy, according to the Length of the Ulna, is partly inserted by a short strong Tendon into the fourth Bone of the Carpus, and partly into the *Os Metacarpi*, which sustains the little Finger.

FLEXORES PRIMI INTERNODII DIGITORUM. See **LUMBRICALES MANUS**.

FLEXOR POLLICIS LONGUS.

This is an Antagonist to the *Extensor Longus*, arising opposite to it from the back Part of the Fibula, with a double Order of fleshy Fibres, running to a middle Tendon, like the *Flexor Tertii Internodii Pollicis Manus*. It ceaseth to be fleshy, as it passes over the Juncture, and runs through a Chancel on the internal Part of the *Os Calcis*, under the Tendon of the *Musculus Flexor Digitorum Longus Perforans*, to which Tendon it sends off a fleshy Slip over the following Muscle, and is inserted into the upper End of the second Bone of the great Toe.

FLEXOR POLLICIS BREVIS

Is short, thick, and fleshy, seemingly divided into two Muscles, by the Tendon of the former passing over it. It ariseth from the superior of the *Os Cuneiforme Medium*, and, running over the Termination of the *Musculus Peroneus Primus*, is implanted into the *Ossa Sesamoidea* of the great Toe, which are likewise tied to the superior Part of the second Bone of that Toe.

FLEXOR PRIMI INTERNODII DIGITORUM PEDIS. See **LUMBRICALES PEDIS**.

FLEXOR SECUNDI INTERNODII DIGITORUM MANUS. See PERFORATUS MANUS.

FLEXOR PRIMI ET SECUNDI OSSIS POLLICIS.

This is a large, disgregated, fleshy Muscle, arising from the *Ligamentum Transversale Carpi*, the Bones of the Carpus at the Basis of the *Mons Lunæ*, and the *Os Metacarpi* of the middle Finger, whence it passes to its Insertion into the first and second Bones of the Thumb. That Part of this Muscle, which arises from the *Os Metacarpi* of the middle Finger, is divided from its other Part by the Tendon of the *Flexor Pollicis Longus* passing between them. Besides which, there is a second Division of this Muscle in that Part, which arises from the *Os Metacarpi*, inasmuch that it has the Appearance of three distinct Muscles, as *Vesalius* observes. In its Tendon, near the Insertion into the first Bone of the Thumb, are plac'd two Sesamoide Bones.

Its Actions are various, according to the Diversity of its Series of Fibres, bending the Thumb, either directly or obliquely, whether towards the Carpus, or the Palm of the Hand, which Motions are frequently made use of by Jugglers.

FLEXOR SECUNDI INTERNODII DIGITORUM PEDIS. See PERFORATUS PEDIS.

FLEXOR TERTII INTERNODII SEU LONGISSIMUS POLLICIS.

This we have frequently observ'd to have a twofold Beginning; the first and superior of which arises tendinous from the internal Extuberance of the *Os Humeri*, between the *Perforatus* and *Perforans*, becoming a fleshy Belly, and then tendinous again, before it joins with the middle Tendon of its other larger Head. The first Head is sometimes wanting, and sometimes it is found springing from the superior and fore Part of the *Ulna*. The second or inferior Origin of this Muscle is that Part of it, which is commonly describ'd, arising with a double Order of fleshy Fibres, for some Space on the *Radius*, from immediately below its superior Part, which unite in a middle Line or Tendon (not unlike the Fibrillæ of a Feather joining to their Stamina); and, passing over the Articulation of the *Carpus*, it becomes entirely tendinous, as it runs over the *Flexor Primi & Secundi Internodii* to its Implantation at the superior Part of the third Bone of the Thumb. For the better Dissection of the rest of the Muscles of the Thumb, raise first the *Abductor Pollicis*. *Cowper*, 84.

FLEXOR TERTII INTERNODII DIGITORUM MANUS. See PERFORANS MANUS.

FLEXOR TERTII INTERNODII DIGITORUM PEDIS. See PERFORANS PEDIS. *Cowper's Myotomia Reformata*.

FLOCCUS. A Flock of Wool, or the Knap of Cloth. The picking of Flocks out of the Bed-clothes is esteem'd a Sign of an approaching Delirium, and is of bad Prefage. See DELIRIUM.

FLOS ADONIS. See ADONIS FLOS.

FLOS ÆRIS. See ÆS.

FLOS AFRICANUS. See AFRICANUS FLOS.

FLOS AMBERVALIS. A Name for the *Polygala*; *vulgaris*.

FLOS AMORIS. A Name for the *AMARANTHUS*.

FLOS ARMERIUS. A Name for several Sorts of *CARYOPHYLLUS*.

FLOS AURICULÆ. See *XOCHINACAZTLIS*.

FLOS CARYOPHYLLÆUS. See *STATICE*.

FLOS CONSTANTINOPOLITANUS. A Name for several Sorts of *Lychnis*.

FLOS CUCULI. See *ARMERIA*.

FLOS MIRABILIS. A Name for the *Jalapa*; *floræ flavæ*.

FLOS PASSIONIS. A Name for several Sorts of *Grænadilla*.

FLOS REGIUS. A Name for several Sorts of *DELPHINIUM*.

FLOS SOLIS. See *CORONA SOLIS*.

FLOS TINCTORIUS. A Name for the *Genista*; *tinctoria*; *Germanica*.

FLOS TRINITATIS. A Name for the *Viola*; *tricolor*; *hortensis*; *repens*.

FLOS TROLLIUS. A Name for the *Helleboro-ranunculus*; *floræ luteæ globosæ*.

FLOS SALIS. The Flower of Salt flows down with the River *Nile*; it is also found on the Surface of some Lakes. Chuse such as is of the Colour of Saffron, has somewhat of a rank Smell like Garum, and sometimes ranker, with a biting Taste, and a fattish Substance. What is colour'd with Minium, or is grumous, is to be rejected. Besides, what is pure and genuine is not to be dissolv'd but in Oil, whereas the adulterated is partly dissoluble in Water.

It is effectual against malignant and phagedenic Ulcers, Nomæ in the Pudenda, and Purulencies in the Ears; it also cures Dim-

ness of Sight, and removes Specks and Albugos from the Eyes. It is mix'd with Plaisters and Ointments, as also with Oil of Roses, for the sake of the Colour it communicates to them. Taken inwardly, in Wine or Water, it provokes Sweat, disturbs the Belly, and incommodes the Stomach. It is, also, an Ingredient in Acopa and Smegmata, for extenuating the Hair: In general, it is of an acrimonious and pyrotic Quality, as are all Salts themselves. *Dioscorides*, *Lib. 5. Cap. 129*.

FLORES. Flowers, in Chymistry, are the most subtile Parts of Bodies, separated from the more gross Parts by Sublimation, in a dry Form. Thus there are Flowers of Antimony, of many Sorts; of Benzoin; of Bismuth; of Tin; of Sal Ammoniac; and of Sulphur; which see under their respective Articles. Mace is, also, sometimes call'd the Flowers of Nutmeg.

FLUCTUATIO. Fluctuation. A Term in Surgery generally us'd with respect to Abscesses, in which Matter is form'd; for then it is perceiv'd by the Fingers to fluctuate in the Tumor, or move in the manner of a Wave.

FLUOR ALBUS. The Fluor Albus is a cachectic Disorder, consisting in an irregular Discharge of an impure, mucid, and generally whitish Humour, from the Female Pudenda, and accompanied with very considerable Inconveniencies, and Diminution of the natural Functions.

Tho' Women, in the Flower of their Age, are, generally, most subject to this Misfortune; yet such as are pretty far advanc'd in Years are not exempted from its Tyranny, as *Hippocrates*, in his second Book *de Morbis Mulierum*, long ago observ'd. There are, also, various Instances of Girls, of six or seven Years of Age, who have labour'd under it, as may be seen in *Fernelius*, *Lib. 6. Pathol. Cap. 16*. in *Rodericus a Castro*, *Lib. 1. Morb. Mulier. Cap. 14*. and in the *Act. Hassniens. Vol. 1. Obs. 83*. This Discharge generally appears in Women of thirteen or fourteen Years of Age, at which time an Eruption of the Menfes usually happens. Nor are married Women, whether pregnant or not, at all times free from the Attacks of this Disorder; for I have known pregnant Women afflicted with it during the whole Time of their Gestation. We also find, from Experience, that those Women are more subject to it, than others, whose Nerves and Fibres are highly lax, and less solid than they ought to be, or whose Constitutions abound with Serum.

It is call'd an irregular Discharge, because it is not stated and periodical; for in some it is daily and continually made, whereas in others it appears at certain Intervals; twice, for Instance, or thrice a Month; tho' there are not wanting Instances of its returning periodically, and at stated Times. It sometimes precedes, sometimes accompanies, and sometimes follows, the menstrual Discharge; whilst, on other Occasions, it appears in the intermediate Time between the Discharges of the Menfes. Besides, when it is very violent, it appears instead of the Menfes, and afflicts Women whose Age has render'd them free from Evacuations of this Kind.

The Matter of this Discharge differs as to Colour and Consistence, as *Platerus*, in *Prax. Tom. 3*. has judiciously observ'd in the following Words: "In this Disorder, says he, the Humour is sometimes serous, and generally copious; at other times limpid, without exciting a pungent Sensation; sometimes acrid, or saline; at other times yellowish, greenish, somewhat blackish, or even sanious; sometimes inodorous, and at other times fetid. With the Serum is, also, sometimes mix'd a pituitous Humour, somewhat glutinous, and odorous, and cold; sometimes in a smaller, sometimes in an equal, and sometimes in a larger Quantity than the Serum."

This Disorder, when moderate, is attended with so mild a Train of Symptoms, that Women, both married and unmarried, may, for several Months, and even Years, labour under it, without any signal Inconvenience. But when it becomes immoderate, it is accompanied with a Cachexy, or bad Habit of Body: Hence arises not only a considerable Languor and Weakness of the Functions, but also an Itching, a Heat, and Sense of Pungency, in and about the Pudenda. In some Women this is a great Hindrance to Conception, and in others none at all. And, if the Matter discharg'd is fetid, it is not only troublesome to the Woman, but generally so loathsome to the Husband, that he abhors the Embraces of his Wife.

That this Disorder bears a near Affinity to a Cachexy, is beautifully shewn by *Hippocrates*, in his second Book *de Morb. Mulierum*, in the following Words: "The Matter, says he, discharg'd, resembles the white Urine of an Ass. White Swellings appear on the Patient's Face; the Parts below her Eyes swell, her Eyes are disorder'd, and appear as if she was dropsical, the Colour of her Skin is whitish, and the lower Part of her Abdomen tumid; on her Legs appear Tumors, so soft and lax, as to retain the Impressions of the Finger; she perceives a biting Pain of the Stomach, and seems to feel an acid Water lodg'd in it, when she is either fasting, or happens to vomit; when she goes up a steep Place, she is seiz'd with a Shortness of Breathing, her Legs are cold, her Knees feeble, and her Uterus preternaturally open'd,"

"and

“ and fallen down, with a Sense of Weight, to its Mouth.
 “ But it is difficult to cure those who labour under this Degree
 “ of the Disorder.” These Assertions of *Hippocrates* are by no means to be understood of a moderate and beginning Fluor Albus, but rather of one of the chronic and obstinate Kind; whose first Cause and Source is a deprav'd State of the Solids and Fluids, but more especially a preternatural Weakness of the Stomach; for, as that chylous, lymphatic, mild, and subtile Fluid, which imparts Strength and Tone to the solid Parts, is too copiously carried off by the Vessels of the Uterus, it must necessarily happen, that the elastic and systaltic Force of the Heart and Arteries, together with the peristaltic Motion of the Stomach and Intestines, must be impair'd. Hence a Languor and Loss of Strength ensue; and the Digestion of the Stomach being destroy'd, crude and viscid Juices, accumulated and convey'd to the Mass of Blood, not only spoil Nutrition, and deform the Countenance, but also impair the Vigour of the Mind, and induce Melancholy and Depression of the Spirits.

As the Seat of this Disorder is the Uterus, we shall take an accurate anatomical View of its Structure, especially that of its Vessels. No Part of the Body, then, is furnish'd with so large a Number of Vessels as the Uterus. The most considerable of these are the spermatic Arteries and Veins, which reach the Ovaries, and are, by copious Ramifications, convey'd to the Bottom of the Uterus. The Ramifications also of the hypogastric Vein and Artery are distributed, not only to the middle and inferior Parts of the Uterus, but also to the Vagina. These Blood-vessels, copiously dispers'd through the Substance of the Uterus, are distributed in highly winding and serpentine Directions. But the exquisite Union or Connection of the Vessels of the Uterus by Anastomoses, has this peculiar to itself, that Canals, of different Bulks, terminate in a large Number of small Cells, which communicate with each other, and are of an oval Figure, a Circumstance which renders the Substance of the Uterus fungous and spongy. It is, also, to be observ'd, that the hypogastric Veins, which carry back the Blood, are not only as large again as the hypogastric Arteries, but, also, that the spermatic Veins are not straight, but run in a highly winding and crooked Direction, so that, if they were to be unravel'd, their Length would amount to several Ells, and be far greater than that of the spermatic Arteries.

From this peculiar Structure of the Vessels of the Uterus it is sufficiently obvious, that the Blood must circulate slowly through these Veins, especially such of them as are destitute of Valves; and from this anatomical Theory we may commodiously account, not only for the Discharge of the Menfes, but also for all the Misfortunes to which the Uterus is subjected. Hence the Reason is sufficiently obvious, why Women, both married and unmarried, are sometimes afflicted with so long and so troublesome a Discharge of Serum of different Colours and Consistencies from the Uterus and Vagina; for as the Tone and Motion of the Uterus, which depend on a due Constriction and Dilatation of its Fibres, are easily injur'd and weaken'd; as the Motion of the Blood and Humours is highly slow through the winding and serpentine Vessels of the Uterus; and as the Return of the Blood is very slow through the Veins which are destitute of Valves, hence not only Infarctions and Stagnations of Blood and Serum are easily produc'd in the Uterus, but, also, the serous and lymphatic Humour, becoming viscid, by the Slowness of its Motion, finds a Passage for itself, and is discharg'd through the small Orifices which every-where occur in the Uterus and Vagina. It is the common Opinion of most Authors, that this Humour is secreted from the Lacunæ of *De Graaf*, or the small Pits conspicuous about the Urethra, and the Glands lodg'd in that Part. But in these Lacunæ there is scarce any Perforation found which admits the Point of a Bristle; whereas on both Sides of the Orifice, and thro' all the Substance of the Vagina, there are a great many Lacunæ, which easily admit half a Finger's Breadth of a Bristle; and, when their Duets are press'd, they discharge an Humour not unlike the seminal Matter.

But tho' these Glands, when relax'd, may discharge a large Quantity of Humour, yet they are not the only Seat of the *Fluor albus*, since there are a great many more Passages from which the Matter of this Disorder, as also the impure serous Liquor discharg'd both with and after the Lochia, are supply'd. And tho' *Ruysh* denies, that the Glands of the Uterus could be ever seen or exhibited to the View; yet 'tis not to be doubted, but in a *Fluor albus* the Serum may be discharg'd from the small Orifices, which, in the Menfes, give Vent to the Blood. For *Fantoni*, in his Anatomy, observes, that, when one blows into the Veins of the Uterus, the Air is convey'd into its Cavity, and the Vagina; and, *vice versa*, by blowing into the latter, the Air may be convey'd into the former. Besides, according to *De Graaf* and *Van Horne*, there are small Perforations observable in the Neck of the Uterus. *Verheyen*, also, observes, that when the Uterus is macerated in Water, and kept in a gentle Heat for some time, many globous Corpuscles are not only observable in the internal Surface of the Vagina, some in Clusters, and others dispers'd up and down; but also affirming,

that he saw the like Corpuscles, in the inferior Part of the Cavity of the Uterus, and that they are justly to be look'd upon as Glands, subservient to the Secretion of a serous and pituitous Humour.

'Tis not, therefore, to be doubted, but in a *Fluor albus* the Matter is discharg'd from the same Vessels and Duets with the menstruous Blood; and the Truth of this Assertion is evinc'd by this, that in some Women a Suppression of the Menfes brings on a *Fluor albus*. That a white Fluid is discharg'd instead of the menstruous Blood, is also obvious from an Observation of *Severinus Pinæus*, in his Treatise *de Notis Virginitat. Lib. 1. Prob. 3.* where this Author informs us, that, in dissecting the Bodies of married and unmarried Women, who, during their Lives, had labour'd under a *Fluor albus*, tho' they were not cut off by that Disorder, he found in the Uterus a highly limpid Humour, which dropt from its Cavity to the Vagina, where it became white, like a Calx dissolv'd in Water, perhaps, by means of the cold Air interposing itself betwixt the serous Particles, not to mention a certain Acrimony, perhaps, deriv'd from the Glands of the Uterus.

Since, therefore, the immediate Cause of a *Fluor albus* is a Debility of the Fibres and Vessels of the Uterus, and a retard-ed Circulation of the Blood thro' its Vessels, by which means the Serum is separated from the Blood, we must next inquire what remote and secondary Causes concur to produce and constitute this direct and immediate Cause. Now, nothing has a more immediate Tendency to relax the Tone of the Fibres, than a cold and moist Air. Hence the Reason is sufficiently obvious, why in the Autumn, and in Places which are cold and moist, marshy, low, vapid, and such as are not sufficiently purg'd by brisk and wholesome Winds, this Disorder is most epidemical; and why, according to *Sylvius*, in *Prax. Lib. 3. Cap. 4.* the *Fluor albus* is more frequent in *Holland*, than in other Countries, especially if any Error, with respect to Regimen, concurs; for all those Aliments which, on account of their too great Viscidity, cannot be easily digested, such as leguminous Substances, Preparations of Milk, farinaceous Aliments, and such as are too sweet; as also Periwinkles, Oysters, Fish inhabiting Ponds and Lakes, Summer Fruits copiously eaten, all Acids and Sallads, which, as they generate a glutinous and crude Chyle, unfit for Assimilation and Nutrition, greatly cherish and increase the *Fluor albus*; and this happens in a still more remarkable Manner, when young Women, or even Infants, have a voracious Appetite. 'Tis also confirm'd by daily Experience, that such Women, as are addicted to Ease, and a sedentary Life, or indulge themselves too much in Sleep, are much more subject to this Disorder, than those, who, by sufficient Exercise and Motion, procure a due Degree of Strength to their Bodies. For this Reason, Country Girls are less subject to this Misfortune, than those who live in Towns and Cities; and the former, by reason of their Labour and Exercise, enjoy a more constant and uninterrupted State of Health, than the latter.

We must also observe, that those Women, who are subject to frequent mucous Defluxions from the Nostrils, are, upon a Suppression of these, generally seiz'd with the *Fluor albus*, since the Humour is translated to the Uterus. But this happens most readily, when the menstrual Discharge is not duly and regularly carry'd on: And, as soon as this happens, the State of Health begins forthwith to be impair'd, the Vessels are fill'd with impure Humours, and the Foundations of a Cachexy are laid.

Having already consider'd those Causes which generate a Redundance of those Humours which constitute the Matter of the *Fluor albus*, we now come to consider those Causes which dispose the Uterus, the genuine Seat of this Disorder, to it. The Causes, then, which concur to the Production of this Effect, are principally such as, by relaxing the Vessels and Fibres of the Uterus, destroy their due Tone and Strength; by which means the Mass of Blood and Humours must necessarily be too slowly carry'd through so large a Number of winding Vessels. Hence a Secretion of viscid Serum will easily be made through the Pores of the Uterus. Hence, also, we observe, that, in marry'd Women, difficult Labours, which weaken the Uterus, frequent Abortions, and imprudent and violent Extractions of the Secundines, often lay a Foundation for this Disorder. 'Tis, also, confirm'd by Experience, that those Women who are subject to immoderate Discharges of the Menfes, as also those who are deliver'd of Moles before the due Time, are generally afflicted with the *Fluor albus*; for all these Circumstances indicate too great a Distention and Relaxation of the Vessels, which must speedily be remov'd by proper Corroboratives; otherwise, in Process of Time, the Tone of the Vessels cannot be restor'd without great Difficulty.

In order, not only to prognosticate the Event of a *Fluor albus*, but also to take proper Measures for its Cure, it is highly necessary, accurately to distinguish it from other Discharges from the Uterus, which bear a kind of Resemblance to it. First, then, it ought not to be confounded with the ill-colour'd Menfes, to which some Women, especially those of the younger Kind, are subject; for, tho' these are peccant, yet they exactly keep their stated Period; whereas the Matter of a *Fluor albus*

not

not only varies in Colour and Consistence, but is promiscuously and irregularly discharg'd, either when the Menfes are irregular, or flow too copiously. 'Tis, also, of great Importance to distinguish a *Fluor albus* from a virulent Gonorrhœa, contracted by impure Embraces; for the Venereal Taint not only affects the glandulous Prostatæ with Pain, but also the Vagina; which it so exulcerates, as to infect the Men who have the Misfortune to enjoy a Woman in such a State. Besides, the Discharge of the Venereal Matter is far less than that of the *Fluor albus*; but it is more acrid, creates a Heat, accompany'd with Pain, and continues when the Menfes flow, and when the Urine is discharg'd; whereas the *Fluor albus* either precedes, or comes after, the Menfes. Hence the celebrated *Baglivi*, in *Prax. Med. Lib. 2. Cap. 8. Sect. 3.* gives us an infallible Rule for distinguishing those Diseases from each other, in the following Words: "Ask, says he, of the Patient, whether she discharges this white Matter during the Time of her Menfes: If she says she does, you may assure her, that she labours under a Gonorrhœa: But, if during the Time of her menstrual Discharge the white Matter disappears, and again returns when it is over, you may be sure, that the Woman only labours under a *Fluor albus*."

Nor is every Discharge of sanious Matter to be accounted a virulent Gonorrhœa; for sometimes, tho' rarely, Abscesses and Ulcers, free from every Degree of a contagious Quality, are form'd in barren Women. With respect to this Subject, the Reader may consult *Clasius*, in *Obs. Med. rarioribus*, *Obs. 4. & 5. de Ulcere Musculorum Uteri, Vaginæ, Vicinorum, & Uteri purulento*. Nor is every Erosion and Exulceration a sure Sign of a virulent Gonorrhœa; for in a *Fluor albus*, and still more in scorbutic Patients, the Serum may acquire such a Degree of Acrimony, as to corrode and exulcerate the adjacent Parts; but this Exulceration is accompanied with an uncommon Itching, and is more superficial, and easily cur'd, than that in a Gonorrhœa. But, in order to prevent our forming a wrong Judgment in Cases of this Nature, I think it expedient to inquire into the Case of the Patient, and accurately to examine every Circumstance.

A *Fluor albus*, when moderate, recent, and produc'd by an external Cause, is not a dangerous Disorder, and may be supported without any violent Symptoms for several Months, either by marry'd or unmarried Women. 'Tis, however, highly disagreeable and troublesome to the more delicate and cleanly Part of the Sex; because, in Process of Time, it destroys the Beauty of their Complexions. But that Species of *Fluor albus* is attended with worse Consequences, which, arising from a great Weakness of the Stomach, and a bad Habit of Body, has arriv'd at a considerable Height, or succeeds other Diseases; for this Species of the Disorder, by injuring all the Functions of the Parts, induces a remarkable Change on the whole Body; for frequently great Extenuation, accompanied by a slow Fever, is produced by it; and sometimes it proves the Cause of Sterility, as *Hippocrates*, in the 42d *Aph. of Sect. 5.* has long ago observ'd, in the following Words: "Those Women, who have their Uterus too moist, cannot conceive, because the seminal Matter is extinguished in them." And, in his Book *de Sterilitate*, he tells us, "that a Woman, whose Uterus is slippery, cannot conceive; because the Uterus suffers the seminal Matter to fall out of it." Besides, those Women, who have long labour'd under the *Fluor albus*, are frequently and easily subject to Abortion; because, in consequence of the relaxed Tone of the Uterus, the Conception is not sufficiently retain'd, but corrupted by a continual Defluxion of Matter, and, at last, expel'd. A Falling down of the Uterus is, also, frequently the Effect of this Disorder.

Since, when this Disease is obstinate, and of long standing, it is so difficultly cur'd, as to be justly class'd among the Reproaches of Physicians, we shall inquire into the Causes which concur to render the Cure so difficult. The first, then, of these Causes seems to be, that Physicians place the immediate Cause of this Disorder, only in a Redundance of an impure and contaminated Serum; whereas, they ought rather to direct their Views to the Fault of the Uterus, the Seat of the Disorder, and the destroy'd Tone of its Vessels; not neglecting, at the same time, such Medicines as eliminate and discharge the Sordes. But, without doubt, the best Corroboratives, and great Pains, are requisite to restore the natural Strength of the Uterus, in consequence of the large Number of Vessels interwoven with each other, and the slow Circulation of the Blood thro' them, by which the Vessels and Glands, being too much relax'd, are depriv'd of their due and proper Tone. Another Cause why this Disorder is cur'd with greater Difficulty than it otherwise would be, is, that generally Physicians either entirely overlook, or do not sufficiently regard, the first Origin of the Disorder, which is the Weakness of the Stomach; for, when the Digestion of the Aliments is not duly carry'd on, peccant Juices are convey'd to the Mass of Blood; and even such Substances as are easily digested, are converted to a bilious or pituitous Sordes, which create in the Stomach a nauseous Sense either of a rancid Fat, or of a Sweetness resembling that of Honey, or of some

four or nidorous Substance: Unless, therefore, the Fault is first corrected in the Primæ Viæ, all the Remedies exhibited for purifying the Blood, and eliminating the peccant Humours, will prove ineffectual. Nor is it to be forgot, as a Cause why this Disorder is with Difficulty cur'd, that Women are naturally so obstinate, as generally to neglect the Injunctions of their Physicians, since they indulge themselves in all those things, which contribute to induce the *Fluor albus*, such as an idle Life, the Abuse of sweet Fruits, Acids, farinaceous Aliments, Tea and Coffee, drinking little, and sleeping much, refrigerating their Abdomen and lower Parts, admitting the hot Steam of live Coals to their Pudenda, in the Winter-time, and drinking cold Liquors when the Body is over-heated; all which are highly prejudicial to Health, but still more so when the Uterus has contracted any Disorder by difficult Labour, Abortion, or any other Cause.

As for the general Intentions of Cure, the Primæ Viæ, and whole Body, are to be empty'd of the Redundance of peccant Serum, by proper Evacuants thro' the Emunctories allotted by Nature for that Purpose. Then the due Tone and Strength of the Uterus are to be restor'd, by the best chosen Remedies, both of the internal and external Kind, that the Circulation of the Blood and Humours may be the more easily and expeditiously carry'd on; and that, by this means, the Stagnation of the peccant Humours may be prevented, the Relaxation of the Glands remov'd, and the like Misfortunes guarded against for the future. After this, the Physician is to direct his Views to the State of the Stomach, that good Juices may be convey'd to the Mass of Blood, in order to correct the peccant Humours, and restore the good and laudable ones, which are lost. If the Disorder is violent, and the Patient cachectic, the Physician is to endeavour to bring the Mass of Blood and Humours to a better State, to promote the natural Excretions, and to restore the former Strength and Functions of the Viscera.

The first Step, therefore, to be taken, is, to eliminate the recrementitious Sordes from the Primæ Viæ; which, however, is not to be done by violent Medicines, and drastic Purgatives, but rather by those of a mild and gentle Kind, which operate as Alteratives. My Opinion, with respect to this, says *Hoffman*, is confirm'd by the Authority of the ablest Practitioners; among whom, I shall only mention the learned *Riverius*, who, in the eighty-second Observation of his third Century, affirms, that, after he had try'd all other Medicines to no Purpose, he found singular Relief afforded by a laxative Pisan us'd for a Month; by means of which alone, a Woman, who had for a long time labour'd under a *Fluor albus*, was restor'd to perfect Health. This same Medicine is again highly extol'd in the fourth Chapter of the fifteenth Book of his *Praxis*. But, among the whole Class of laxative Medicines, none are more beneficial, in this Disorder, than Preparations of Rhubarb; because, besides their laxative, they are also possess'd of a balsamic and bitterish Quality, by which they not only correct the peccant Acid, but also corroborate the weaken'd Parts: But, for this Intention, the best and most solid Rhubarb ought to be chosen, and not such as is light and rotten. This Medicine may commodiously be mixt with others, answering the same End, and exhibited either in the Form of a Powder, an Infusion, a Decoction, an Extract, or an Essence. The Powder may be thus prepar'd:

Take of the best Rhubarb, half a Dram; and of the *Terra foliata Tartari*, (otherwise call'd *Tartarus Regeneratus*) twelve Grains: Mix together for a Dose.

A most useful Infusion may be prepar'd in the following Manner:

Take of the best Rhubarb, six Drams; of the Roots of Zedoary, round Birthwort, and Burnet, and of Orange-peel, each three Drams; of the Seeds of Carrot, and stellate Anise, and Salt of Tartar, each one Dram and an half: Mix all together, to be put into one Pint of Wine.

The Extract is most commodiously mixt with Pills of a laxative and corroborative Nature, and may be prepar'd in the following Manner:

Take of the Extract of Rhubarb, of roasted Aloes, of Gum Galbanum, of the best Myrrh, Gum Hedera, Gum Sandarach, Extract of round Birthwort, and Amber, each one Dram: Mix together, and out of each Dram make twenty Pills, with Essence of Peruvian Balsam.

When the *Fluor albus* is very violent, the Stomach highly weak, and the Viscera much relax'd, I have always, says *Hoffman*, found the following Medicines of singular Efficacy:

Take of the finest Crocus Martis, or chalybeated cachectic Antimony, the Fæcula of Arum, the Salt of Wormwood, and

and a Solution of Crabs-eyes, each one Dram; of the Bark of Cascarilla, of Amber, and Cinnabar, each half a Dram; and of the Oil of Sassafras-wood, six Drops: Mix up into a Powder; one Dram of which may be exhibited for a Dose each Morning in Wine diluted with Water.

But the Operation of this Medicine will be still more effectual and conspicuous, if an Infusion prepar'd of the Herbs Baum, Mint, Dead-nettle, Sage, and the Seeds of the Carrot, and Stellated Anise, is drank after it. After this, in order to restore the Strength of the Stomach, and resolve and eliminate the Sordes, the following Medicine is of singular Efficacy:

Take of the Essence of Amber, of Aloes-wood, of the acrid Tincture of Antimony, of the anodyne mineral Liquor, and of the Spirit of Hartshorn, each half an Ounce: Of this Mixture fifty Drops, according to the State of the Patient, may be exhibited in some proper Infusion, or Wine diluted.

Tho' the best and most proper internal Medicines for this Disorder are already enumerated, yet 'tis sometimes necessary their Virtues should be assisted by external Applications; the most celebrated of which are, from long Experience, known to be Baths prepar'd with corroborating nervous Species, and such as are impregnated with a volatile oleous Salt; of which kind are the Herbs Marjoram, Savory, Thyme, Baum, Calamint, Feverfew, Southernwood, Origanum, Rosemary, and Hyssop, together with the Flowers of *Roman Chamomile*, Bay, and Juniper-berries; all which ought to be included in a Bag, and boil'd gently in the Water for half an Hour. This Bag, whilst the Patient sits in the Bath, is to be applied to the Region of the Uterus. 'Tis also expedient, when the Patient is out of the Bath, to apply, in the Night-time, smaller Bags of the same kind gently boil'd in red Wine, to the Region of the Groin. Besides, Suffumigations prepar'd of Tacamahac, Mastich, Amber, Benzoin, and Frankincense, are of singular Service, when admitted into the Uterus.

As for the Regimen, 'tis necessary that, during the Cure of this Disorder, the Diet should be spare, slender, and of easy Digestion: The Patient must carefully abstain from all Fleshes, especially such as are of hard Digestion, pinguious, or smok'd; as also from Sea-fish, Preparations of Milk; and such Substances as are leguminous, farinaceous, acid, or sweet; and, if the Patient will eat Fleish, that which is roasted is preferable to that which is boil'd. For ordinary Drink we recommend a Decoction of China-root, Sassafras-wood, red and yellow Sanders, the Wood of the Mastich-tree, and Cinnamon. Good *Hungarian* Wine moderately drank at Meals, is, also, excellent for removing the Weakness of Digestion.

In a *Fluor albus*, whether of the simple or virulent kind, as also in Cases where the Menses have an unnatural Colour, nothing is more prejudicial than Astringents, whether internally exhibited, or externally applied; for, by their means, the ferous Matter retain'd in the Uterus, and its Vessels, is often concreted into a highly tenacious Mass: Hence its Excretion is not only prevented, but also a large Tumor, hard to the Touch, is form'd in the Region of the Pubes, which, unless speedily cur'd, scarce ever fails to bring on a Train of highly formidable Symptoms; for I have seen this Misfortune give Rise to slow Fevers, attended with an Atrophy, a Phthisis, purple Eruptions, such Tumors as happen in a Tympanites, Desfluxions which prey upon the Uvula and Tonsils; as, also, Scirrhuses, Apostems, and almost incurable Exulcerations of the Uterus.

As uterine Pessaries and Injections were highly esteem'd, and frequently us'd, by the Antients, and especially by *Hippocrates*, in some Disorders peculiar to the Sex, so 'tis surprising their Use should be banish'd from the modern Practice, since in certain Cases, especially where the Substance of the Uterus is injur'd, we are by Experience convinc'd of their singular Efficacy: For I myself have seen happy Effects produc'd by them in an inveterate *Fluor albus*, which would not yield to other Means, as also in Abscesses and Exulcerations of the Uterus; for as, in Men, inveterate Gonorrhoeas, whether of the benign or malignant Kind, are not to be cur'd without Injections, so, also, in a *Fluor albus*, 'tis necessary that some powerful Remedy should be immediately applied to the Part affected. But 'tis to be observ'd in general, that such Injections are not to be us'd in large Quantities at one time, but frequently injected in small Quantities, an Ounce or two, for Instance, at a time; but, for this Purpose, we must carefully abstain from all such Substances as are of a saline, acrid, too pinguious, or lubricating Nature.

Tho' in cachectic Cases the *Caroline* Baths are highly efficacious, yet they are cautiously to be us'd, both internally and

externally, when the Substance of the Uterus is injur'd, and too copious a Discharge of Serum made; and they must be us'd with still greater Caution, when the Discharge is of the Venereal kind, the Parts exulcerated, and the Urine discharg'd with Pain, and containing a large Quantity of glutinous Matter, which subsides; for these Waters, by reason of the subtile calcarious Earth, with which they abound, are of an highly constricting Nature, when externally apply'd; and, when us'd internally, they injure the Parts relaxed and corroded by a corrupted Matter.

Chalybeate Waters are far more proper in Cases of this Nature; such as the Springs of *Laughstad* and *Freyenwald*, which, when made into Decoctions with nervine Herbs, are highly efficacious in eliminating the superfluous Serum by Perspiration, and diverting the Course of the Humours from the Uterus.

I have often observ'd a large Discharge of Blood after a Suppression of the Menses for two or three Months, not by Pregnancy, but some other Causes, succeeded by a *Fluor albus*. For preventing both these Misfortunes, Venesection, after duly weighing all Circumstances, is to be administred; for the Vessels of the Uterus, distended by too large a Quantity of Blood, lose their Tone and Strength; so that Stagnations not easily to be remov'd happen in them.

In this Disorder, Baths, whether of the dry or moist kind, are almost always rather pernicious than beneficial before the proper Use of Correctors, Corroboratives, and Evacuants; for as they put the peccant and impure Humours into too violent a Commotion, they often, not without the greatest Danger, force them from a less to a more noble Part. Dry or *Laconic* Baths are of singular Service to phlegmatic Women, if the Body is previously freed from the superfluous and recrementitious Humours, since, by promoting Sweat by means of the external Warmth, they restore the natural Strength to the Parts before too much relax'd, by the Excretion of the redundant Humidity.

If the Stomach is full of Crudities, as in this Disorder it frequently is, mild Emetics are, with great Success, frequently repeated: Among these, the best and most efficacious is *Ipecacuanha*, which is generally corroborating, and assists Perspiration: The Elixir *Viscerale*, mix'd with the Essence of *Cascarilla*, and taken together with the Aliments, also produces very happy Effects.

After the Cure of an inveterate *Fluor albus*, if any Matter should still continue to drivel from the Pudenda, besides the external and internal Medicines already mention'd, Suffumigations of Olibanum, Tacamahac, Mastich, and Amber, are of singular Service, if commodiously apply'd to the Vagina; for they, in some measure, strengthen and corroborate the relax'd Glands.

When scorbutic Women, such as are infected with the Venereal Disease, or those who are frequently subject to the purple Fever of the red kind, are seiz'd with the *Fluor albus*, they must carefully abstain from hot Purgatives and Baths; and are, at first, to be mildly treated with fix'd Diaphoretics, and such Medicines as powerfully resist the Corruption of the Lymph. In a Case, therefore, of this kind, I with singular Success order'd bezoardic Powders, in Conjunction with a Grain or two of Sulphur of Antimony, prescribing, at the same time, a Decoction generally us'd in the Lues Venerea, and prepar'd of such Roots and Woods as purify the Blood, with an Addition of crude Antimony. If by this means the Body is prepar'd for a Month or more, both internal and external Medicines will prove more effectual in promoting the Cure. *Frederic Hoffman*.

In the preceding Dissertation there are many excellent Hints relative to the Cure of a *Fluor albus*; and the Caution he gives, especially relative to the Use of Astringents, are never to be forgot by the prudent Physician; for, from the Use of these, very formidable Disorders are frequently brought on. I must remark, that a Cancer of the Uterus, not unfrequently causes a *Fluor albus*, which is generally succeeded by Floodings and Death. A stumous Habit of Body, also, frequently induces a *Fluor albus*.

FLUTA. The same as *MURÆNA*; which see.

FLUVIALIS. An aquatic Plant, of which *Tournefort* reckons three Species:

1. *Fluvialis Pisana Folis denticulatis*. J. B.
2. *Fluvialis Folis angustis dentatis*. *Fluvialis Species, angusto brevique Folio undequaque Spinis infesta*. Raii H. 3. 132.

The third Species is the *Algoides vulgaris*; for which see *ALGOIDES*.

FLUVIORUM, *vel* FLUVIALIS AQUÆ Qualitates. The Qualities of Rivers, or River-water.

The Waters of all Rivers and Pools are bad, except the Water of the River *Nile*, which is endu'd with all good Qualities; for it is pleasant in drinking, stays but a moderate time in the Body, and quenches Thirst; and, if it be drank cold,

it creates no Molestation, but is serviceable to Concoction and Digestion; whence it renders the Body graceful, robust, and florid. But the Waters of other Rivers are hard of Concoction, dry, and create a Thirst, especially if they pass through a bad Soil. The best of this Sort are Streams which flow from never-failing Springs, and mix with no other River-waters. *Aetius, Tetrab. 1. Sermon. 3. Cap. 165.*

FLUXIO. The same as CATARRHUS; which see.

FLUXUS, *ῥέξις, ῥέξις, ῥέξις*, a Flux, is sometimes taken for all kinds of Defluxions, and in this Sense is the same as *Catarrhysis*, or *Catarrhus*; sometimes it bears a restrained Sense, as *Fluxus Ventris*, a Flux of the Belly, which is a continual Evacuation of humid Fæces, without a Tenesmus or Lientery, as *Galen* defines it, *Com. 2. in 1 Epid.* Again, there is a *Fluxus hepaticus*, an hepatic Flux, when from an Imbecillity of the Liver proceeding from a cold Distemperature of that Part, the Excrements are render'd very like Water in which Flesh newly killed has been washed. *Galen, Lib. 5. de Loc. affect. Cap. 7. Sylvius Prax. Med.* says, he never knew this Affection, but he thinks the Cause of it to consist in a Redundance of Serum in the Blood, attended with a Relaxation of the Vessels. *P. Barbette* supposes it to be a Species of the *Fluxus Hæmorrhoidalis*. Sometimes *Fluxus*, *ῥέξις*, is taken in the strictest Sense for the *Fluxus muliebris*, as in several Places of *Hippocrates de Nat. Mulieb.* Of this there are various Kinds with respect to the Colour of the Excretions, such as the *Fluxus albus*, which see before; the *Fluxus ruber sive cruentus*, which is the same as the MENSES; or, if the Flux be different from the two preceding, it proceeds from the same Cause as other Hæmorrhages, that is, a Solution of Continuity of the Veins of the Uterus from a Redundance or Acrimony of the Blood. *Fluxus*, *ῥέξις*, is also spoken of a Flux, or Falling off of the Hair, as in *Trallian, Lib. 1. Cap. 2. Castellus.*

FOCALE, a Kerchief, or Muffler, worn by the Antients about the Neck, to guard the Fauces from the Injuries of the Air. It is still much in Use among the Germans.

FOCHA. It is not certain what it means: *Costæus* and *Magius*, the Translators of *Avicenna*, expound it of a sort of Drink made of Barley, or else of Raisins. *Avicenna*, in one of his Treatises, gives the Name *Focha* to an aromatic Drink prepared for exciting Venery. *Castellus.*

FOCILE MAJUS ET MINUS, the greater and lesser Focil, are Names for the two Bones of the fore Arm, the *Ulna* and *Radius*; for which see **BRACHIUM**. The same Terms are apply'd to the Bones of the Leg, the *Tibia* and *Fibula*.

FOCKIL. A Species of **SOLANUM**, which grows in Java. *Bontius.*

FOCOT GUEBIT. A Species of Poplar. *Ray Index.*

FOCUS, *ἑστία*, in Metallurgy, according to *Rulandus* and *Johnson*, is a Smelting-house for Metals. *Focus Morbi*, the Focus of a Disease, is the Part where it is supposed to keep its principal Residence, and whence it communicates its noxious Influence; for Instance, the Focus of a Fever, according to *Galen, Lib. de Marasmo, Cap. 7.* is that Part of the Body which first contracts an immoderate Heat in its solid Substance; or, as he expresses himself in another Place, *M. M. Lib. 11. Cap. 20.* the Focus of a Fever is that Part where the Obstruction, Putrefaction, or Inflammation, lies. Among some ancient Anatomists the first Lobe of the Liver was called the Focus, from a Persuasion that it contributed to Concoction; the second was called *Mensa*, the Table, because the Aliments were imagin'd to be plac'd thereon; the third *Culter*, the Knife; and the fourth *Auriga*, the Carrier, as suppos'd to be instrumental in the Distribution of the Aliment.

FODINA. A Name given by some Anatomists to that turning and winding Cavity of the Ear called *Labyrinthus*, the Labyrinth.

FOEDULA. A Species of Fungus. *Rulandus.*

FOENICULUM.

The Characters are;

The Root is fibrous; the Leaves capillaceous; the Petals of the Flowers entire; the Seeds oblong, somewhat thick, gibbous, and striated.

Boerhaave mentions eight Species of this Plant; which are,

1. *Fœniculum*; vulgare; Germanicum. *Boerb. Ind. A. 48. Rupp. Flor. Jen. 224. Mor. Umb. 3. Hist. Oxon. 3. 270. C. B. Pin. 147. Fœniculum*, Offic. *Fœniculum vulgare*, Ger. 877. Emac. 1032. Park. Theat. 884. Raii Hist. 1. 457. Synop. 3. 217. *Fœniculum vulgare minus, acriore & nigriore semine.* J. B. 3. 2. Tourn. Inst. 311. Elem. Bot. 260. *Marathrum seu Fœniculum.* Chab. 381. FENNEL, or FINCKLE.

Our ordinary Fennel has pretty large, thick, white Roots, which run deep into the Earth, without much dividing, beset with small Fibres. It has large winged Leaves, branch'd into several Segments of long, slender, very fine, capillaceous Parts, of a dark-green Colour, and sometimes a little reddish;

the Stalk grows to be four or five Foot high, much divided, and full of whitish Pith: The Flowers grow on the Tops of the Branches, in flat Umbels, of small yellow five-leav'd Flowers, each of which is succeeded by a Couple of roundish, somewhat flat, striated Seed. The whole Plant has a pretty strong, but not unpleasant Smell. It is generally planted in Gardens to be near at hand, but it grows wild in several Places toward the Sea-coast; and at *Woolwich* and *Gravesend* it is frequently met with: It flowers in June. The Leaves, Root, and Seed, are in Use; the Root being one of the five opening Roots, and the Seeds one of the great carminative Seeds.

FOENICULUM, *μαράθρυον*, seems to be a Diminutive from *Fœnum*, Hay; because, when wither'd and dry'd like Hay, it is in like manner repositied against Winter. *C. B.* Others think it so called, because when sown it returns the Seed *magnum cum Fœnore*, with vast Interest. *Marathron*, *μαράθρυον*, *ἄνθος μαράθρυον*, from withering, because, when dry and wither'd, it is much us'd in seasoning a great Variety of Things.

In putrid Fevers, attended with a Malignity, we shall hardly find a Plant more aperitive and discutient, by means of Sweat, than Fennel; whence nothing can be more proper in the Small-pox and Measles, than a Decoction of the Herb, or its Seeds or Roots. *Sim. Pauli.*

The Seeds, taken in Powder every Morning, fasting, with Sugar, wonderfully sharpen the Sight. The dry'd Seeds, infus'd in Vinegar, with an equal Quantity of Cinnamon, and an Addition of Sugar, is an excellent Preservative of the Sight, and restores it when weak, or decay'd through Age; so that Persons eighty Years old, and quite dim, have, by means hereof, recovered the Use of their Eyes, to a Degree almost incredible. *Arnaldus de Villa nova.* Instead of Sugar, it would perhaps be more convenient to make use of Honey. Nothing is more effectual for Dimness of Sight than Fennel-seed, says *Tragus*. Of the same Efficacy is the Juice of the Flowers or Root, or the distil'd Water, dropped into the Eyes.

Besides, the Seed corroborates the Stomach, and cures a Nausea, or Loathing. *C. Hoffman* asserts, the Seed or green Herb of other Plants, are so far from promoting Concoction, that they rather hinder it. What has been said is spoken of the dry Seed, which is also a noble Carminative, according to the well-known Verse,

Semen Fœniculi referat Spiracula Culi:

The Seed of Fennel forces Vent for Winds below:

And, mix'd with other Peccorals, gives Relief under an Asthma, and is also an Alexipharmac. The Leaves, boiled in Barley-water, increase Milk in Nurses; and a Decoction of the Leaves or Seed eases the Pains of the Kidneys, provokes Urine, and expels the Stone. The Roots provoke the Menses, and are suppos'd to open Obstructions of the Liver and Spleen, and to cure the Jaundice. The whole Herb, boiled in Broth and Soops, is accounted good to extenuate an excessive Fatness and Obesity of Body. The *Italians* and Inhabitants of *Languedoc* and *Provence* make the tender Shoots with a Bit of the upper Part, whence they spring, season'd with Oil and Pepper, serve at a second Course at Table, instead of sweet Smallage. It is usual with us to put the Leaves, cut small, into Vinegar, as Pickle for boil'd Fish, as Salmon, Pike, Sturgeon, and others.

For a Quartan and other Fevers, take of the Juice of the Root of Fennel, four Ounces; sweeten it with Sugar; and let the Patient drink it, for ten Days together, in the Morning, fasting. *Zacutus*, who says it mightily provokes Sweat, to those who are well cover'd in Bed, to others, Spitting of viscous Phlegm, and, to others, fetid Eructations, or Discharges of Wind downwards, calls it an easy, but useful Remedy.

Joannes Crato, Physician to the Emperor of Germany, saw a Monk, who was cur'd by his Tutor, in nine Days, of a Cataract, by only applying the Roots of Fennel, boiled in Wine, with the Decoction, to the Eyes.

A Woman, feeling her Child descend to the Pecten before the due Time, with other Signs of Abortion, applied a Cataplasm prepar'd of toasted Bread, with Vinegar, and the Powder of Fennel-seeds, to the fore Part of the Belly, under the Navel, and behind also as far as the *Os sacrum*; by which means all the Symptoms were immediately remov'd; for Fennel is excellent for preventing Abortions. *Ray, Hist. Plant. 457.*

Officinal Preparations are a simple Water from the Leaves, and a distil'd Oil from the Seeds. *Miller's Bot. Offic.*

The Steam of the Decoction of Fennel excellently cleanses the Eyes, and strengthens the Sight. 'Tis, also, highly beneficial in Diseases, as we are inform'd by *Cabelchoverus Centur. 1. Curat. 60. in Annotat.* A Decoction of this Plant is also serviceable, in increasing the Quantity of Milk in Nurses, as we are told by the same Author, *Centur. 6. Curat. 86.*

Hoffman de Præstantia Remediorum Domesticorum.

2. Fœni-

2. Fœniculum, vulgare ; Italicum ; Semine oblongo ; gustu acuto. C. B. P. 147. M. H. 3. 270.

3. Fœniculum ; Folis atrovirentibus. H. Edinb. 122.

4. Fœniculum ; dulce. Offic. Ger. 877. Emac. 1032. Park. Theat. 884. C. B. Pin. 147. Boerb. Ind. A. 48. Mor. Umb. 3. Hist. Oxon. 3. 270. Raii Hist. 1. 458. Fœniculum dulce Majori & albo Semine. J. B. 3. 4. Tourn. Inst. 311. Elem. Bot. 260. Rupp. Flor. Jen. 224. Chab. 381. SWEET FENNEL.

The sweet Fennel grows not so tall as the common, otherwise they are much alike ; the main Difference being in the Seed, which is longer and narrower, not so flat, but for the most part somewhat crooked, of a yellower Colour, and of a much sweeter Taste. The Seed is brought to us from Germany, and is much of the Nature of the common Sort ; but is accounted better, and is therefore more us'd in the Shops ; though Parkinson, upon his own Experience, prefer'd the Seed of the common Fennel be ore this. *Millers Bot. Offic.*

It agrees in Virtues with common Fenel.

5. Fœniculum ; sylvestre. C. B. P. 147.

6. Fœniculum ; sylvestre ; glauco folio. T. 311.

7. Fœniculum ; marinum ; altissimum ; angustifolium.

8. Fœniculum ; tortuosum. J. B. 3. 16. Raii Hist. 1. 460. Boerb. Ind. A. 48. Tourn. Inst. 311. Elem. Bot. 260. Sefeli Massiliense, Offic. Ger. 834. Emac. 1051. Sefeli Massiliense Fœniculi folio, quod Dioscoridis censetur, C. B. Pin. 161. Park. Theat. 903. Sefeli Massiliense folio Fœniculi crassiore, Bot. Monsp. 239. Sefeli Massilioticum Fœniculi folio, Schrod. 137. Fœniculum tortuosum Monspeliensium, Sefeli Massiliense multis, Chab. 384. Saxifraga montana, minor, Fœniculum tortuosum dicta, Hist. Oxon. 3. 273. FRENCH HARTWORT.

It is cultivated in the Gardens of Botanists, and flowers in August. The Part us'd is the Seeds, which are white and striated, of an aromatic Taste, attended with somewhat of Acrimony. They are hot and dry, provoke Urine and the Menfes, and enter the Composition of the *Theriaca Andromachi*.

FOENICULUM Sylvestre. A Name for the *Sefeli* ; perenne ; folio glauco breviori ; and for the *Sefeli* ; perenne ; folio glauco longiori.

FOENICULUM Alpinum. A Name for the MEUM.

FOENICULUM Perennum. A Name for the *Peucedanum*, Germanicum.

FOENIX vel PHœNIX, the Son of one Day, the Philosophers Stone. *Rulandus*.

FOENUM BURGUNDIACUM. A Name for the *Medica* ; major ; erectior ; floribus purpurascens.

FOENUM GRÆCUM.

The Characters are ;

It has a flat Pod, shap'd like a Horn, and generally full of Rhomboidal or Kidney-shap'd Seeds, mark'd with a hollow Line reaching from Corner to Corner.

Boerhaave mentions seven Species of this Plant ; which are,

1. Fœnum Græcum ; sativum. C. B. Pin. 348. Park. Theat. 1096. Hist. Oxon. 2. 166. Rupp. Flor. Jen. 213. Tourn. Inst. 409. Elem. Bot. 326. Boerb. Ind. A. 2. 32. Fœnum Græcum. Offic. Ger. 1026. Emac. 1196. Raii Hist. 954. Chab. 167. Fœnugracum. J. B. 2. 365. FENUGREEK. *Dale*, p. 227.

Fenugreek is one of the trifoliated leguminous Plants, growing a Foot or two high, having the Stalks set alternately with Leaves like Trefoil, round-pointed, and a little indented about the Edges : The Flowers grow singly with the Leaves, and are white and papilionaceous, much less than the Blossom of a Pea ; these are succeeded by very long slender Pods, somewhat flat and full of yellow hard square Seed, of a very strong unpleasant Smell. The Root is small, and perishes every Year ; it is sown in several Parts beyond Sea, for the sake of the Seed, which comes from Germany, and is the only Part us'd.

It is rarely given inwardly, but is us'd in Fomentations, Baths, Cataplasms, and emollient Clysters ; being ripening, dissolving, anodyne, and good for all kind of Tumors and Swellings, to which Purposes the Fatina, or Powder, in very effectual.

Fenugreek is sown in many Places, but I know not any where it grows spontaneously. The farinaceous Substance of the Seed, which is the only Part in Use, is emollient, digestive, maturating and discentient, and also pargoric ; it is of so great Service in Medicine, that Surgeons very rarely prepare a Cataplasm, for any of the aforesaid Intentions, without a Mixture of Fenugreek, or its Mucilage. It is a common Ingredient in emollient Clysters ; for by its mucilaginous Substance it blunts the Acrimony of the Humours, and covers over the Erosions of the Intestines with its slimy Parts. Its Mucilage is also of Service in discussing the Marks of Sugillations about the Eyes, being thereto apply'd. The Antients held the De-

coction to be effectual in very many Disorders incident to Women.

For the SCIATICA,

Take of Fenugreek boiled in Hydromel to a Dissolution, a sufficient Quantity ; bruise it, and boil it again with Honey ; then spread it upon a Cloth, and apply it to the Part : It gives immediate Relief under this Distemper as well as the Gout, and all Pains of the Joints, as we are told by *Bayrius*. This Prescription was communicated to Mr. Ray by Dr. Hulse.

Fenugreek, we are well assured, is an excellent Ophthalmic ; and I have observ'd a Sugillation in the Adnata Tunica of the Eye, which a Boy had contracted in a violent Fit of the Epilepsy, quite remov'd, after taking a Purge of Sena-leaves, with a very small Quantity of the Root of Mechoacan, in three Days, by Help of the following Prescription : Take of the Pulp of sweet Apples, of the Consistence of a Poultis, boiled in a sufficient Quantity of Water of Fennel, and Ver-vain, half a Pound ; shake it well, in a new Hair-sieve ; then add, of Mucilage of Fenugreek, extracted by Rosewater, one Ounce ; Lapis Hæmatites, finely levigated, one Dram ; Camphire, and Tutty prepared, one Scruple ; Bole Armoniac, a small Quantity, and Rose-water, as much as is sufficient : Make them into an Epithem for the Eyes. The Flour of Fenugreek, mixed with the Juice of Apium, is proper to be apply'd to cold Tumors of the Breasts. *Ray's Hist. Plant.*

Fenugreek, and its Flour, are of an emollient and discussive Quality ; triturated, and made into a Cataplasm with Hydromel boiled, they are effectual against internal, as well as external Inflammations. Made into a Cataplasm, with Nitre and Vinegar, they extenuate the Spleen. The Decoction of Fenugreek, us'd by way of Infusion, is effectual in Female Disorders proceeding from an Inflammation or Obstruction of the Uterus. The Cremor of the same, boiled in Water, cleanses the Hair, and absterges Scurf, and Achors ; made into a Pessary with the Fat of a Goose, it mollifies and dilates the Parts about the Region of the Uterus. The green Herb, us'd with Vinegar, is accommodated to such Parts, as are relaxed and exulcerated. The Decoction is good for the Tenesmus, and the Dysentery accompany'd with fetid Discharges ; and the Oil of Fenugreek, with Myrrh, cleanses the Hair, and obliterates the Marks of Cicatrices in the Pudenda. *Dioscorides, Lib. 2. Cap. 124.*

2. Fœnum Græcum ; sylvestre. C. B. P. 348. WILD FENUGREEK.

3. Fœnum Græcum ; sylvestre alterum ; polyceration. C. B. P. 348. Another WILD FENUGREEK, with many Pods.

4. Fœnum Græcum ; sylvestre ; alterum. *Dod.* p. 547.

5. Fœnum Græcum ; sylvestre ; polyceration ; majus ; Creticum. *Breyn. Cent. 1. 79. Ic. 80.*

6. Fœnum Græcum ; sylvestre ; πολυκερῶδες ; minus ; Monspeliense. *Breyn. Cent. 1. 79. Ic. 80.*

7. Fœnum Græcum, corniculis reflexis, minus ; & repens. See ALCHIMILECH. *Boerb. Ind. alt. Plant. Vol. 2. p. 32.*

FOETABULUM. A Term coined by *M. Aurelius Severinus*, *Lib. de Abscess. in Animal.* to signify an Abscess with a Bag, or Cystis : He thought this Word *Fœtabulum* more proper to express the first Generation of such Abscesses, than *Germen*, because they are produced only in Animals, whereas *Germen* rather belongs to Vegetables. *Castellus*.

FOETUS. The Young of all viviparous Animals, whilst contain'd in the Womb, and of oviparous Animals, before they are hatch'd, are call'd by this Name. The Name has also been transfer'd by Botanists to the Embryos of Vegetables.

In the *Edinburgh Medical Essays*, Vol. 2. p. 172. there is a Dissertation on the Nutrition of the Fœtus in the Womb.

FOLIACEUM ORNAMENTUM. A foliaceous or fringed Substance at the Extremity of the *Tubæ Fallopianæ* ; which receives the Egg as it descends from the Ovary, and transmits it to the Uterus.

FOLIATA TERRA. Sulphur perfectly prepared by Mundification, Purification, and Dealbation. *Theat. Chym. Vol. 4. p. 720.* At present the essential Salt of Tartar, and the *Arcanum Terræ foliatæ Tartari* of the Chymists, pass under this Name, and are highly extol'd, tho' nothing else but Tartar regenerated. See TARTARUS.

FOLIATIO, Foliation, is one of the Parts of the Flower of a Plant, being a Collection of those fine-colour'd Leaves, which constitute the Compass of the Flower. *Miller*.

FOLIATUM, *φολιαστος*, was a precious Ointment for the Stomach and Head, only in Use among the Rich at Rome : It was also called *Spicatum*, *σπικαστος*. *Galen, de C. M. S. L. and de C. M. P. G.*

FOLIUM,

FOLIUM, φύλλον, a Leaf. See the Article **BOTANY**.

FOLIUM INDUM. See **MALABATHRUM**.

In the Spagiric Language *Folia* signifies pure, and separated from Dross: Hence, when a Spagirist says, *Vertite Aurum in Folia*, "Turn ye Gold into Leaves," he means as much as to say, Dissolve it into Liquor; that the Soul may be sparingly extracted, which Soul is tingent Sulphur. *Folium* is also a Name for the Philosophers Stone, in *Theat. Chym. Vol. 4. p. 772*. Again, *Folium*, with some Anatomists, is that triangular membranaceous Sinus, where there is a Concourse of the sagittal and coronal Sutures in Infants; and lastly, *Arnaldus de Villa nova* gives the Name of *Folium* to a relaxed Uvula. *Castellus*.

FOLLICULUS, in Botany is the thin Involucrum, or membranaceous Cover inclosing the Grains or Seed of a Plant: *Folliculus*, in Surgery is the Bag, or Cystis, resembling a Membrane, which contains the Matter of anomalous Abscesses; such as the *Steatoma*, *Atheroma*, and *Meliceris*, of which in their proper Places:

Folliculus Fellis is the Gall-bladder.

FOLLIS, in Anatomy, means the same as the preceding Word.

FOM. Sound, or Voice. *Rulandus*.

FOMENTATIO. The same as **FORUS**.

FOMENTUM is us'd in the same Sense as **FORUS**.

FOMES, ἔναυσμα, ζώπυρον, Fuel, in a medicinal Acceptation, is the internal or antecedent Cause, which foments and continues the Disease. *Galen*.

FONS, πηγή, Fountain, has various Significations in Medicine. *Hippocrates, Lib. 4. de Morb.* calls Blood, Bile, Phlegm, and Water, the four Fountains of the Body: So the *Fontes Signorum*, "the Fountains of the Signs," are those Things, or Circumstances, from which the Signs of Health or Diseases may be collected: The three Heads from whence Remedies may be derived, have also the Name of *Fontes*, or Fountains, given them; as *Fons Dieteticus*, *Pharmaceuticus*, & *Chirurgicus*, "the dietetic, pharmaceutic, and "chirurgical Fountains." In Anatomy, that membranous Part which is found in new-born Infants at the coronal and sagittal Commissures, and which, in Length of Time, hardens into a Bone, tho' of a thin Substance, is call'd by some *Fons pulsans*, or *pulsatilis*, by others *Fontana* and *Fontanella*. Among the Chymists Mercury is honour'd with the Title of *Fons Chymiae*, "the Fountain of Chymistry." And the *Balncum Maris* or *Mariæ*, according to *Rulandus*, is the *Fons Philosophorum*, "the Philosophers Fountain."

FONTALE acetosum, in *Paracelsus, Lib. de Tartar. Morb. Cap. 16.* means the same as **ACIDULÆ**.

FONTALIS Raii. A Name for the *Potamogeton rotundifolium*.

FONTANELLA. An Issue. See **CAUSTICA**.

Fontanels are those small Ulcers made by Surgeons in various Parts of the Body, either for the Preservation of present, or the Recovery of lost Health. They are, by some, call'd *Cauteries*, though less properly, because by that Word we generally understand either a red-hot Iron, or a corroding and caustic Medicine. Surgeons in this Operation seem to imitate Nature, who often spontaneously excites Ulcers of this kind, by which means the latent Corruption of the Body is eliminated, and Mankind freed from various Disorders. The Parts of the Body in which Fontanels are most commodiously and most generally made, are, first, the superior Part of the Head; secondly, the Neck; thirdly, the Arms, in which the Fontanel is to be made near the lowest or extreme Part of the Deltoide Muscle, and the Musculus Biceps; for in these Parts Fontanels are at present generally made; fourthly, the lower Extremities, especially that Part above the Knee, on the Inside of the Thigh, where there is a Sinus, which may be perceiv'd by the Fingers; fifthly, and lastly, the Part below the Knee, on the Inside of the Leg, where a kind of Sinus is found, is generally a very proper Place for a Fontanel.

Though there are various Methods of making a Fontanel, yet there is generally none more expeditious, than, after the Part is mark'd with Ink, and the Skin rais'd by the Fingers both of the Surgeon and an Assistant, with a Knife to make an Incision capable of commodiously admitting a Pea. When the Pea is introduc'd, a Plaster is to be apply'd over it, and secur'd with a Bandage; and nothing more is requisite, in order to making the Fontanel, which, when united, and cleans'd every Morning and Evening, is to have a fresh Pea put into it, and the Plaster and Bandage is then again apply'd; by which means it will, in a few Days, become a small Ulcer, from which a purulent Humour is daily discharg'd; and this Humour ought to be carefully wip'd away with a clean Linen Cloth at every Dressing.

Another Method of making Fontanels is to open the Skin by means of a red-hot Iron. But, lest this Iron should strike a Terror into Patients, especially Women and Children, it is expedient to conceal it in a Case (see *Tab. XXXIII. Fig. 8. A*). The Case B B is so to be applied to the Part in which

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the Fontanel is to be made, that, by depressing the Plate C the red-hot Iron, contain'd in the Case, may be forcibly apply'd to the Body. After this, the cauteriz'd Part is anointed with Basilicon, or fresh Butter, and cover'd with a Plaster; till, after repeating this Dressing every Day; the Crust falls off; and then the Ulcer left is to have a Pea put into it, and treated in the Manner already directed. Though this antient Method of making Fontanels may seem uneasy and cruel to the Patient; yet it is highly efficacious; since the intense Pain, created by it, must necessarily produce a great Revulsion; but delicate Patients will rarely submit to this Method.

The third Method of making Fontanels is by means of corrosive or caustic Medicines. In order to this, a Plaster, perforated in the Middle, as in *Tab. XXIII. Fig. 11.* is so laid on the Part intended, which is to be mark'd with Ink, that the Perforation in the Middle, which ought to be as large as a Pea, may correspond to the Part mark'd. Then the Part of the Skin, appearing through the Perforation, is to be cover'd with some proper solid Caustic, which, lest it should fall off, is to be cover'd with Lint, or a small Compress, over which is to be laid a pretty large Plaster; and, above all, a Compress and Bandage are to be applied. Then the Patient is order'd to be kept in a State of Rest, and this Dressing is left on for six or eight Hours, according as the corrosive Medicine requires more or less Time to operate on the Part. Then, removing the Dressing, a certain Crust is found on the Skin, which is to be treated in the Manner before directed.

But, in whatever Manner the Fontanel is made, the Dressing is to be renew'd once a Day, and if, in the Summer-time, much Pus is discharg'd, twice; for a fresh Pea, after the former is taken out, ought always to be put in, and a fresh Plaster apply'd, almost as large as the Palm of one's Hand; or, instead of a Plaster, a Piece of Paper, or Silk, cover'd with Wax, or a Leaf of Ivy, which must be secur'd with a Compress and Bandage. But Linen Bandages are, for this Purpose, far less commodious than those made of Leather or Brass Laminæ, so contriv'd with Clasps, or Strings, that the Patient may himself apply them, without any Trouble. The best Machine for this Purpose seems to be that delineated in *Tab. XXXIII. Fig. 9.* The Letters A A represent a Thong of Leather, B a small Hook of Metal, C a Plate made of Brass or Copper, with various Perforations for receiving the Hook. We must also observe, that some, instead of Peas, put small Silver or Wooden Balls into their Fontanels; but there seems to be little or no Difference betwixt the one and the other. The Fontanel is to be kept open, till the Disorder, for the Removal of which it was deslin'd, is cur'd: And, in Patients who have labour'd under any inveterate Disorders, it is to be kept open till the very Day they die, lest their former Misfortune should return: Or, if a Disorder, formerly cur'd, returns, which sometimes happens, the Fontanel is to be made again.

The principal Use of Fontanels seems to be either to mitigate, or remove, various Disorders of the Head, Eyes, Ears, Teeth, Breast, and other Members, together with sciatic Pains. And as these Uses of Fontanels are of the greatest Importance, so various Authors have treated professedly of them: Nor are we to regard the Opinion of *Helmont*, who, with some others, affirms, that Fontanels are of no other Use but to torment the Patient. I cannot, indeed, deny, that in some Men Fontanels are made to no manner of Purpose; but, as soon as this is perceiv'd, it is expedient to conglutinate the Ulcer. Nor is it to be forgot, that, in violent and obstinate Disorders, there ought to be two Fontanels, one in each Leg or Arm; or one in one Arm, and one Leg; or in one Arm or Leg, and in the Neck; that, by this means, the peccant and corrupted Humours may be the more easily and expeditiously eliminated.

When, by means of Fontanels, the Patient is recover'd, or when other Circumstances indicate their Conglutination as proper; the Pea, or small Ball, is to be taken out, and the Fontanel will soon spontaneously be heal'd. It sometimes happens on this Occasion, that proud and fungous Flesh arises in a Fontanel; but it may be soon remov'd by sprinkling a little of the Powder of burnt Alum, or black Hellebore, upon it. It is, also, to be observ'd, that, when, in old Persons, Fontanels stop, and the Lips of the Ulcer become dry, livid, or black, it is often a Sign, that some violent Disorder, or, perhaps, Death, is approaching. Hence, proper Remedies are quickly to be exhibited, in order to ward off the impending Misfortune. *Hyster. Chirurg.*

The METHOD of making ISSUES in the CORONAL SUTURE.

Fontanels are, sometimes, cut on the Top of the Head, where the coronal and sagittal Sutures join. This Operation is not so frequently perform'd in *Germany*, as in *Italy* and *Holland*: And, though many Surgeons are of Opinion, it is of no Service, since nothing can be extracted from the Inside of the Head; yet there are some, and those Men of Experience and Probity, who esteem it a noble and efficacious Remedy. And

it must be confess'd, that it is frequently very beneficial in the Head-ach, Vertigo, Epilepsy, Dimness of Sight, Defect of Memory, and many other Diseases of the Eyes and Head.

For discovering the proper Place for these Fontanels, the Antients shav'd the Head; then laid a double String upon the Middle of it, and extended one from the Nose to the Neck, and the other from the Middle of one Ear to the Middle of the other; for where these two Threads cross in the Vertex, there is the Juncture of the coronal and sagittal Sutures, and the properest Place for this Operation. But this Method is so far from being exact, that it sometimes deceives; for the Juncture is different in different Men. Nor is it very material, whether the Issue be cut in or near the Juncture, or in the sagittal Suture; since the Discharge does not proceed so much from the inclos'd Brain, as the Antients surmis'd, as from the external Integuments of the Cranium. They were, likewise, mistaken, in thinking that Part of the Cranium, where the Sutures join'd, thinner and more perspirable; for though there is often an Aperture of that Part in Infants, (call'd *Fontanella*) yet the Bones, gradually concreting, often render it, in Adults, of the same, and, sometimes, a greater Thickness than any other; yet this Opinion, however erroneous, of the Antients, seems to have been the Reason of their making Issues in this Part. The Sutures, and their Junctures, are not easily discover'd without an intimate Acquaintance with the Heads of Skeletons, and an Application of the Fingers to the Patient's Head who is to undergo the Operation; for most Men have a Depressure, or a Prominence, in that Part where the Sutures meet; and this is the most commodious Place for your Purpose.

To render this Remedy more effectual, the Issue is generally made with a Caustery. First, the Head is shav'd; and, after having discover'd the Commissure of the Sutures, that Place is cauteriz'd to the very Cranium. The Instrument for this Operation is either simple, as that describ'd by *Meekren* and *Decker* (see *Tab. XXIV. Fig. 9.*); or furnish'd with little Tubes, as that represented *Tab. XXXVI. Fig. 1. and 2. from Aquapendente*. To prevent the Caustery from being extinguish'd; before it has reach'd the Cranium, some make an Incision into the Skin, either rectilinear, as *Celsus* did, or transverse; and, opening the Lips of the Wound, first lay the little Pipe (*Fig. 2.*) upon the Cranium; then through that press the Caustery, till the Bone is sufficiently burn'd. When the Aperture is perfected, they put in a Pea with a digestive Ointment, and upon that a Plaster, square Compress, and the four-headed Bandage; for the rest, proceed as directed above, with respect to Issues in other Parts.

In order to account for the Efficacy of these Fontanels in the Cure of many violent Disorders of the Head, we must observe, that the Burning, though it does not, perhaps, extract the malignant Humours, through the Cranium, out of the Brain, yet the Pain, occasion'd by it, dispels or removes them in an Instant, by causing a strong Revulsion. For further Proof of their Efficacy, see *Marc. Donatus, Lib. 2. Hist. Miral. Cap. 4. M. A. Severinus Pyrot. chirurg. Lib. 2. Pars 1. Cap. 6. Riverius, Cent. 11. Ob. 93. Aquapend. Operat. Chirurg. Cap. 1. Claudini Respons. de Caustorio in Sutura Coronali*.

See also *Frederic Hoffman's Dissertatio de Vesicantium & Funiculorum circumspetto in Medicina Usu*, in the sixth Volume of the folio Edition of his Works, *Genev. 1640. p. 67.*

FONTANELLA, also, imports the quadrangular Aperture found betwixt the Os Frontis and Os Sincipitis in Children just born, which is also call'd *Fons Pulsatilis*.

FONTICULUS, in Surgery, is the same as FONTANELLA.

FONTINALIS. A Species of Moss, describ'd under the Article BOTANY.

FORAMEN. A Perforation, is an open Place, so call'd *a forando*, from boring or piercing, the Way by which it is usually effected. *Foraminulentum Os* is the Os cribriforme, or ethmoides. *Castellus*.

FORBICIN, an Insect, the same as FORFICULA; which see.

FORCEPS. The Name of a well-known surgical Instrument, of which there are many Sorts, adapted to various Operations. Their Uses are to lay hold of any thing, and extract it from the Body. In Mechanics they are call'd *Pincers*, or *Tongs*.

FORFEX, in Surgery, is a Pair of Scissars.

FORFICULA, *Auricularia*, *Mordella*, *Vellicula*, an Earwig. This Insect insinuates itself into the Ear, and bites or pierces the Place where it fixes, causing much Pain, so that the Brain sometimes is offended thereby; it lodges itself also in other sinuous Parts of the Body, where it acts in the same manner, but with less dangerous Effects than in the Ear. It contains a good Quantity of volatile Salt and Oil.

They make an Infusion of these Insects in Oil, which is afterwards boil'd, in the same manner as when they prepare Oil of Worms. Oil of Earwigs is good to strengthen the Nerves under convulsive Motions, by rubbing it on the

Temples, Wrists, and Nostrils. These Insects, being dry'd, pulveriz'd, and mix'd with the Urine of a Hare, are esteem'd to be good for Deafness, being introduc'd into the Ear. *Lemery des Drogues*.

When this Insect gets into the Ears, a ready way to extract it is, to lay the Patient on the opposite Side, and to pour warm Water into the affected Ear; after which, you will soon see the Earwig floating on the Water.

FORMA, the Form, in the Sense of the Chymists, as they would explain themselves, is either the Spirit of the World, by which natural Bodies are produc'd, or the generative Virtue which is in Things, by which they are enabled to produce their Like: Thus the *Form* of Man lies in Man, and no other Being; the *Form* of a Tree in a Tree; the *Form* of Metal in Metal; and so of other Things. The *Forms* of Things, as *Rulandus* says, are the celestial Influences communicated from superior to inferior Things; the occult Power, Force, and Virtue, of every thing. The Term *Forma* is also often us'd by the Chymists instead of *Quinta Essentia*, as well as for the outward Form or Figure of any thing. *Castellus*.

FORMATUS, form'd, is an Epithet apply'd by *Bohnius*, *Circul. Anat. Phys.* to the Muscles properly so call'd, by way of Distinction from the *Nonformati*, or *Informes*: By the first, he means all the carneo-tendinous Parts, which always pass'd among Anatomists under the Name of Muscles; by the latter, we are to understand carneo-fibrous Contextures; for Instance, the Membranes, especially those of the middle Parts of the Body, as of the Stomach, Intestines, and the like. *Castellus*.

FORMICA, Offic. Ind. Mod. 52. *Jonf. de Insect. 85. Mer. Pin. 202. Mouff. 238. Aldrov. de Insect. 517. Charlt. Exer. 51. Jonf. de Insect. 85. Raii Insect. 69. Formica minor, Schrod. 5. 341. THE ANT.*

It is a small, oblong, red, or blackish Insect, arm'd with a Sting, and living in Swarms; the Male is wing'd, the Female destitute of Wings; the Animal, and its Eggs, are in Use.

Ants heat and dry, and incite to Venery; their acid Smell mightily refreshes the vital Spirits. They are said to cure the Psora, Lepra, and Lentigo. The Eggs are effectual against Deafness, and correct the Hairiness of the Cheeks in Children, being rub'd thereon. *Dale from Schrader*.

FORMICA MAJOR, Offic. Aldrov. de Insect. 517. *Formica major Herculeana*, *ἰππομύρμηκες*, *Charlt. Exer. 57. Formica alata*, *ἰππομύρμηκες*, *Aristoteli*, *Ejusd. major Aristoteli ἰππομύρμηκες*, *Jonf. de Insect. 85. Hippomyrmaces*, *Raii Insect. 70. THE HORSE ANT.*

The Insect provokes to Venery, and the Oil thereof, by Infusion, is good for the Gout and Palsy. *Dale*.

In the Philosophical Transactions, I meet with the following Account of Ants:

There are three Sorts of Ants, as the black, dark-brown, and philemont; each Kind inhabit by themselves in their several Banks, two Sorts seldom or never being found together.

Mr. Ray says, that Dr. *Hulse*, in August 1670. sent him these Observations: "Make bare an Ant-hill with a Stick, and then cast Succory-flowers upon it, and you shall see the Ants creep very thick over them; now, as they creep, they let fall a Drop of Liquor from them; and, where that chance to light, there you shall have, in a Moment, a large red Stain. Sometimes they will be a pretty while before they discolour them; and, at other times, they will do it suddenly. At the first, I guess'd, that, being vex'd by stirring their Hill, they might thrust their Stings into the Flowers, and thorough them convey that sharp Liquor; but, by bruising them, and rubbing the express'd Juice against the Flowers, I find they will be equally stain'd. 'Tis a Thing well known, that Ants, if they get into Peoples Clothes, and so to their Skin, will cause a Smart, or Tingling, as if they were stung with Nettles; which I conceive is done by letting fall the fore-mention'd corrosive Liquor, rather than by stinging.

"To what Sort of Liquor to refer this Juice, I know not. I dropt Spirit of Salt, and Oil of Sulphur, upon the Flowers; but they did not cause them to change Colour. I also put Salt of Tartar upon them, and dropt thereon a little Spirit of Salt; which caused a sufficient Fermentation, but prevail'd not to change the Colour of the Flowers in the least.

"This Observation holds true, not only in Succory-flowers, but also Larkspur, Borage, and all others of a blue Colour."

Some Years since, Mr. *Sam. Fisher*, of *Sheffield*, made me acquainted with these Experiments. "If with a Staff, or other Instrument, you stir an Heap of Ants, (especially Horse Ants) so as to anger them, they will let fall thereon a Liquor, which, if you presently smell to, will twinge the Nose like newly-distill'd Spirit of Vitriol.

"A weak Spirit of Pismires will turn Borage-flowers red in an Instant; Vinegar, a little heated, will do the like. Pismires, distill'd by themselves, or with Water, yield a

"Spirit,

" Spirit, like Spirit of Vinegar, or rather like the Spirit of
 " Verdegrise : Lead, put into this Spirit, or fair Water, with
 " the Animals themselves being alive, maketh a good Sugar
 " of Lead : Iron, put into the Spirit, affords an astringent
 " Tincture ; and, by a Repetition, a Crocus Martis. Take
 " Sugar of Lead thus made, and distil it, and it will afford
 " the same acid Spirit again ; which the Sugar of Lead, made
 " with Vinegar, will not do, but returns an inflammable Oil
 " with Water, and nothing that is acid. Sugar of Lead, made
 " with Verdegrise, doth the same (in this respect) with that
 " made with Spirit of Pismires. When you put the Animals
 " into Water, you must stir them to make them angry, and
 " then they will spirt out their acid Juice. No Animal that
 " we ever distil'd, (he speaks of his Brother and himself)
 " except this, yields an acid Spirit, but constantly an urinous
 " one ; and yet we have distil'd many, both Flesh, Fish, and
 " Insects."

In Dr. Hulse's Account, where he saith, that Spirit of Salt, and Oil of Sulphur, dropt upon Succory-flowers, did not cause them to change Colour, it is to be understood of the Flowers, entire and unbruised ; for any blue Flowers, being a little bruised, and then a Drop of Spirit of Salt, or any other acid Spirit, let fall thereon, will turn instantly red. The Reason is obvious ; for that the Leaves of the Flowers (as all the other Parts of the Plant) being invested with a Skin or Membrane, the Liquor dropt thereon cannot easily penetrate it, and so mix itself with the interior Juice or Pulp. Hence it is, that if these Flowers be put into cold Vinegar, especially if the Weather be cool, they will not change Colour for a considerable time ; but, if you heat the Vinegar, they will change immediately. *Phil. Trans. Abr. Vol. 2.*

FORMICA, also, signifies a kind of black Wart, with a broad Base, and cleft Superficies, call'd likewise *Myrmecia*. Besides these Significations of *Formica*, certain small varicose Tumors on the *Anus*, and *Glans Penis*, and the *Herpes Miliaris*, are call'd by this Name.

FORMICANS, *μυρμηκίζων*, fornicating, an Epithet bestowed by *Galen* on an unequal Kind of Pulse, the lowest and weakest of all Pulses, and resembling the creeping Motion of Ants, being no other than a lower Degree of the vermiculating Pulse, and proceeding from an extreme Languishment of the vital Flame, and Imbecillity of the Systole of the Heart. *Galen, de Puls. ad Tyron. Cap. 8. & de Diff. Puls. Lib. 1. Cap. 26, 27.*

FORMICATIO, Formication, is a Sensation in any Part, resembling the creeping of Ants thereon.

FORMIX. The same as *Noli me tagere*, *Herpes Esthiomenos*, or *Lupus*. See *HERPES* and *ULCUS*.

FORMULA. A technical Term, spoken of the Constitution of Medicines, whether simple or compound, both with respect to their Consistence and Description. *Paracelsus* calls red and clear Urine *Formula Urinæ*. *Morrellus* wrote a Treatise expressly on the Forms, or Formules, of Medicines ; and *Gaubius* has lately done the same.

FORNACEÆ TESTÆ, *ὄστρακα τὰ ἐξ ἰπνῶν*, Bricks or Tiles us'd in the Structure of Furnaces, Stoves, or Chimnies, being heated to a great Degree are good Escharotics, and, rub'd with Vinegar, cure Itchings, and exanthematous Eruptions. They give Relief also under the Gout ; and, made into a Cerate, discuss scrophulous Tumors. *Dioscorides, Lib. 5. Cap. 178.*

FORNACUM Terra, *ἐκ τῶν καμίνων γῆ*, the Earth of Stoves, Furnaces, or Chimnies, being heated to a Redness, work the same Effects as the Bricks or Tiles in those Structures. *Dioscorides, ib. Cap. 178.*

FORNAX, *κάμινος*, a Furnace, for chymical Purposes, is divided by *F. Hoffman*, and others, from *Geber*, into seven Kinds ; which are, the calcinatory, sublimatory, distillatory, descensory, fusory, solutory, and fixatory ; according to the several Operations perform'd in them, of which an Account may be found under their proper Articles.

FORNIX. A Part in the Brain. See *CAPUT*.

FORPEX, for FORFEX. *Castellus*.

FOSSA, in Anatomy, is the interior Cavity and *Rima magna* of the *Pudendum Muliebre*, which appear on a Separation of the Labia ; by *Bartholine*, it is call'd *Fossa navicularis*.

FOSSIO, Digging, is reckon'd by *Galen de San. tuend.* among the more violent Kinds of Gymnastics ; and is esteem'd the more wholesome Exercise, because the Person employ'd therein, at the same time, successively receives the kindly and beneficial Effluvia of the fresh and newly-open'd Earth.

FOSSULA. The same as *BOTHRIUM*, which see.

FOTUS. A Fomentation. A liquid *Epithem*, if apply'd hot, is the same as a Fomentation. It is generally apply'd to the Body by means of Stups, or doubled Flannels, wrung out of the Fomentation ; but it is a necessary Caution, to express out all the Liquor, provided it is extremely hot ; otherwise it will scald the Part, raise Blisters, and may be attended with ill

Consequences. It is also observable, that a certain Degree of Heat will dissolve and dissipate a Tumor ; and a higher Degree of it will harden, and make it scirrhus. See *EPITHEMA*.

FOVEA, in Anatomy, is the Sinus of the *Pudendum Muliebre* ; it is also the same as *BOTHRIUM*. *Fovea*, in *J. C. Claudinus, Appendic. de Ingress. ad Infirmos*, is a particular little Vaporary, or Sudatory, for receiving only one, or both Legs, in order to sweat ; on which account it differs from the *Stupha*, which is spacious enough to receive one or more entire Bodies, *Castellus*.

FRACES are the pressed Pulp, or the Substance, of the Olive.

FRACTURA, *κάλαγμα*, a Fracture. See *CATAGMA*.

The different Species of Fractures, as distinguish'd by the Antients, are ; (1.) The *Catagma raphanodon*, *κάλαγμα ραφανιδόν*, (from *ράφανος*, a Radish) a transverse Fracture of a Bone through its whole Thickness, as we break a Radish ; it is also called *Sicydon*, *σικυδόν*, and *Cauledon*, *καυλιδόν*, from *σίκυς*, a Cucumber, and *καυλός*, a Stalk, because they are broken in that manner. See *CAULEDON*. (2.) *Catagma Schedacedon*, *κάλαγμα σχεδακιδόν*, an oblong Fracture of a Bone. (3.) *Catagma ad Onycha*, *τὸ εἰς ὀνύχα*, or *καλαμηδόν* ; for which see *CALAMEDON*. (4.) *Alphitedon*, *ἀλφιτιδόν*, or *Caryedon*, *καρυιδόν*. See *ALPHITEDON*. (5.) *Catagma secundum Apothrausin*, *ἔσθραπτον*, *τὸ κατ' ἀποθραυσιν*, or *κατ' ἀποκοπήν*, " when by the Fracture a Splinter or Fragment of a Bone is so broken off, " as to lie loose on the Surface." See *APOTHRASIS*.

Fractures of the Cranium, observ'd by *Hippocrates, Lib. de Cap. Vuln.* are, (1.) *Rogme*, *ρογμή*, the Fissure, which, when it appears very small, and like a Hair, is called, by *Paulus, Trichismus*, *τριχισμός*, from *τριχίς*, a Hair. (2.) *Phlasis*, *φλάσις*, by *Galen* call'd *Thlasis*, *θλάσις*, in which, says *Hippocrates*, there is a Collision or a Contusion of the Bone, without either a Fissure or Depression. (3.) *Esthra*, when the Instrument leaves a Mark or Impression on the Bone ; and this Species, if the Cranium be deeply penetrated, is call'd *Diakope* (see *DIACOPÉ*) ; if Part be cut off without a Division, *Eccope* (see *ECCOPÉ*) ; if the Wound be inflicted as with an Ax, *Apocarnismos* (see *APOCARNISMUS*). (4.) *Apechema*, *ἀπείχημα*, or *Apocheoma*, *ἀπείχημα*, call'd also *Xumphae*, *χυμφοή*. See *APACHEMA* and *CONTRAFISSURA*. (5.) *Esphlasis*, *ἐσπλάσις*, or *Engisoma*, *ἐγγίσωμα*, which is divided into *Epieisma* and *Cammarosis*. See these four last Words under their proper Articles.

When a Solution of Continuity happens in a Bone, the Disorder is by the Latin Writers call'd *Fractura*, and by the Greeks, as we learn from *Galen's Method. Medend. Lib. 6. Cap. 5. Κάταγμα*. In Cartilages, however, a Solution of Continuity has obtain'd no peculiar Denomination, but is comprehended under the general Name, Fracture ; at least, *Hippocrates*, in his Book, *de Articulis Text.* 48. when treating of a Fracture of the external Ear, which is totally cartilaginous, uses the general Name Fracture, since his Words are, *ἢ ὅ ἢ κατέσθραψεν*.

It was not, however, customary among the Antients, to call every Solution of Continuity in a Bone, a Fracture, but only such a Solution as was produc'd by external Violence, as *Paulus Aegineta*, in the 80th Chapter of his sixth Book, tells us, in the following Words : " A Fracture, in general, is such a Separation or Rupture of a Bone, as is made by external Force." For, by this Circumstance, a Fracture is distinguish'd from a Caries of the Bone. Besides, a Fracture is only said to happen when the Parts of one Bone have their Cohesion destroy'd, in order to distinguish a Fracture from a Luxation, in which Bones naturally contiguous, are separated. A Fracture is distinguish'd from a Contusion, which supposes an Attrition of the Solids, by this Circumstance, that the Bones are, in the former, divided into large Portions. Among the Antients, however, the Comminution of the Bones into the smallest Portions, was refer'd to Fracture, provided it was produc'd by external Force ; and this Species of Fracture was call'd *Alqitridon*, as we learn from *Paulus Aegineta*, in the Part above-quoted.

Surgeons generally divide Fractures into three Species, or those of the simple, compound, and complicated Kind. A simple Fracture is produc'd, when only one Bone is broken in one Part, without any considerable Injury done to the superincumbent or adjacent Parts. But when such a Fracture happens in those Parts of the Body where two large Bones are contiguous to each other, in the *Cubitus*, for Instance, when the *Radius* is broken whilst the *Ulna* remains entire, this Species of Fracture is, by Surgeons, call'd incomplete, because the Situation of the Parts is not much chang'd, and the Length of the Member remains the same. But when the *Ulna* and *Radius*, or the *Tibia* and *Fibula* in the Leg, are both broken, this is call'd a complete or a compound Fracture, tho' we may, also, properly enough call it a compound Fracture, where only one Bone is broken in several Parts. But, where, besides the Fracture of one or more Bones, there is a Train of Symptoms which requires a particular Method of Cure, such as a Wound or Ulcer ; then it is call'd a complicated Fracture, because, in the Cure of such a Disorder, particular Regard is to be had to the

the concomitant Symptoms. But 'tis sufficiently obvious, that a Fracture cannot properly be said to be complicated, unless the above-mention'd Symptoms are present in a very considerable Degree; for a Fracture cannot be produc'd without some Degree of Contusion, and a slight Inflammation is almost always subsequent to Fractures. Hence a Fracture is only said to be complicated, when the concomitant Symptoms are of such Importance as to require an Apparatus and Method of Cure different from those requisite in a simple or compound Fracture. Thus, for Instance, when a considerable Wound accompanies a Fracture, such a Dressing cannot be us'd as in a simple Fracture, where it is often left unchang'd for several Weeks; but such an Apparatus is requir'd, as may, without endangering the Separation of the fractur'd and reduc'd Bone, be frequently remov'd, in order to dress the Wounds.

Fractures are call'd transverse, oblique, or longitudinal, according to their different Directions. They, also, receive various Names, and require different Methods of Treatment, according as the Portions of the Bone either rest on each other, or are mutually apply'd to each other sideways, or rise into the flesh like Prickles.

Fractures are differently denominated according to their different Directions. A transverse Fracture is produc'd, when a Bone is divided by a Section perpendicular to its Length. An oblique Fracture, on the contrary, is said to be produc'd, when the Division of the Bone is not perpendicular to its Longitude, but declines more or less from a perpendicular Direction. Hence the Surface of the Fracture is the greater, and the Retention of the fractur'd Portions, when reduc'd, the more difficult. A longitudinal Fracture is, when the Bone is split in a longitudinal Direction; for which Reason, it is rather a Fissure than a Fracture, properly so call'd, because the Parts of the Bone are not entirely separated, but, as it were, fissur'd in a longitudinal Direction; which Species of Fracture was therefore call'd, as we learn from *Galen, de Method. Medend. Lib. 6. Cap. 5. ῥιζομήδης*, or a longitudinal Division of the Bone.

As for the different Situation of the fractur'd Portions; the Extremities of the fractur'd Bone may remain in their natural Situation, especially in a transverse Fracture. They may also be a little remov'd from each other, but in such a manner, as mutually to rest on each other, in some measure. The fractur'd Portions may, also, be entirely remov'd from their usual and natural Contact, and slip to the Sides of each other; which almost always happens in an oblique, and sometimes in a transverse Fracture. And, lastly, if the fractur'd Portions are acute, they may rise like so many Prickles through the Integuments; and this Species of Fracture is certainly the worst of all others.

These Circumstances ought to be duly adverted to, not only in order to distinguish the various Fractures by their respective Names, but also because, according to the Diversity of Fractures, different Methods of Cure are requir'd; and because, by adverting to their Differences, we are the more able to prognosticate their Events.

The Effects of a Fracture are various, according to the different Natures of the Bones fractur'd; the different Directions of the Fracture; the State of the fractur'd Portions with respect to Situation, Figure, Number, and Bulk; and according to the Nature of the Place in which, and the Parts near to which, the Fracture is made.

The most considerable Consequences of Fractures are, a Destruction of the Office of supporting the Body; as also of sustaining and directing the Muscles; a Contraction of the Muscles; a shortening of the Member; a Removal of the Muscles from their natural Situation; an Intorsion and Deformation of the Member; a Laceration, Contusion, or Corruption of the internal Periosteum of the medullary Membrane, and of the Marrow itself; a Luxuriancy of the Vessels of the Bone: Whence arise an Inequality of the Callus; a Tumor and Deformity of the Member, together with a Distraction, Laceration, Irritation, Compression, and Convulsion, of the Membranes, Tendons, and Nerves; a Change, Destruction, Obstruction, and Inflammation of the adjacent Vessels; together with Pain, Ecchymosis, Extenuation, Suppuration, Gangrene; the Mortification of a Part, and often of the Whole, of the Member, and almost always Contusion.

As for a Destruction of the Power of supporting the Body; when we stand or walk, the whole Weight of the Body is supported by the Bones of the Legs and Thighs. Hence, in rickety Children, these Bones, being too pliant and flexible, are bended by the Weight of their Bodies. When, therefore, these Bones are fractur'd, the Power of supporting the Body is forthwith destroy'd, unless, in a transverse Fracture, the

Extremities of the Bone should correspond exactly to each other, and not change their Situation. But soon after, if the Patient continues to move the fractur'd Part, the Portions of the Bone will quickly be remov'd from each other, and the Power of supporting the Body consequently cease.

As for sustaining and directing the Muscles; most of the Muscles of the human Body not only rise from, but are also inserted into Bones: If we except the Sphincter Muscles, and the muscular Fibres of the Viscera and Vessels, there are scarce any Muscles in the Body which have not one of their Ends fix'd to a Bone: When, therefore, the Bones are fractur'd, the Direction of the muscular Motion is destroy'd, and the Action of the Muscles affix'd to these Bones surprisingly disorder'd. When the Patella, which adheres to the Tendon, rising from the crural Muscles, and raises this Tendon, like a Lever moving on its Fulcrum, is broken, the Direction and Action of these Muscles is forthwith disturb'd. The same holds true in the other Bones when fractur'd.

As for the Contraction of the Muscles, and Shortening of the Member; *Galen*, in the eighth Chapter of his first Book *de Motu Muscul.* observes, that the Bellies of the Muscles have a Power of contracting themselves spontaneously: And, that this Effect was not produc'd by the animal Faculty moving the Muscle, he prov'd by the Retraction of both Parts of a Muscle, upon dividing it after the Death of any Person. *Vesalius*, in the 19th Chapter of his seventh Book, beautifully confirms this by Experiments made on live Animals; for, when he cut the Belly of a Muscle, he perceiv'd one Part of it retracted towards its Origin, and the other towards its Insertion. When he cut the Tendon of another Muscle, he observ'd the Muscle retracted to its Origin. When he cut the Head of another Muscle, it was drawn towards its Insertion: And, when he cut both the Head and Insertion of a Muscle, then both Parts of it were contracted towards its Belly, or most fleshy Part. But the Bones, to which the Muscles are fix'd, retain them in the Distention which produces their Retraction when cut: Hence, when the Bones are fractur'd, the Muscles, in consequence of their spontaneous Contraction, become shorter, and retract the Part of the Bone to which they adhere: Hence the Member becomes shorter; and this Shortness is the greater, the more and the stronger the Muscles are which are fix'd to the inferior Portion of the fractur'd Bone. Thus, if the *Os Humeri* is fractur'd above that Part to which the *Deltoides* Muscle is affix'd, the fractur'd Bone will be strongly drawn upwards, and the Member shorten'd; for, as *Celsus* tells us, in the tenth Chapter of his eighth Book, "the Muscles and Nerves, which were before tense, are now contracted." The same also holds true in the *Os Femoris*. For this Reason, all Surgeons are agreed, that Fractures of the *Os Femoris*, if they happen in the upper Part near the Hip, are rarely cur'd without Lameness; but, if this Bone is fractur'd about the Middle, or towards the Knee, the Cure generally succeeds more happily. This seems, among other Reasons, to happen principally, because, the higher this Bone is fractur'd, the more Muscles draw the inferior Portion of the Bone upwards; and, since these Muscles are very strong, a violent Extension is necessary to the Reduction of the Bones, which are, for the same Reason, with great Difficulty, retain'd in their natural Situation.

As for the Removal of the Muscles from their natural Situation; most of the Muscles not only draw their Origins from the Bones, but are also inserted into them, and some of them even adhere for a considerable Length to the Bones. If, therefore, the fractur'd Bones are remov'd from their natural State, the Situation and Direction of the adjacent Muscles, which either derive their Origins from these Bones, or are inserted into them, are much disorder'd. Besides, the Portions of the fractur'd Bone may remove other Muscles from their natural Situation, tho' they neither derive their Origins from them, nor are inserted into them, since they repel, and take up the Room of, the adjacent Parts.

As for the Intorsion and Deformation of the Member; the external Surface of the human Body has certain Eminences, and, consequently, some Parts which are more depress'd. This is principally produc'd by the various Positions of the Muscles, and their various Actions, during which they are sometimes tumid, and sometimes sunk. This is, in a particular manner, obvious in such Men as are brawny and not over-fat, but much less in Women, whose Bodies always appear more smooth and equable. This Circumstance is highly regarded by Painters and Statuaries, who, in their respective Performances, make the Limbs of *Hercules* and *Laomedon* strong and brawny, whereas they make the Body of *Venus* soft and smooth. When, therefore, the Muscles, in consequence of a Fracture of the Bones, are put out of their natural Situation, the Figure of the Parts is chang'd, and the natural Form of the Member is destroy'd. Hence skilful Surgeons, in order to discover whether Bones are well set, compare the affected Arm or Leg with that which is sound, carefully observing whether the Emi-

nences and Cavities of both are exactly similar. Thus, for Instance, the fractur'd Parts of the Arm may be mutually apply'd to each other, tho' not exactly in their former and natural Situation; but in this Case the Deformity of the Member will always discover the Error: And this Deformity appears most conspicuous, when the Bones of the Cubit are fractur'd; for then the Muscles subservient to the Supination and Pronation of the Hands generally induce a surprising Change on the natural Figure of the Part.

The Misfortunes incident to the Bones themselves, after Fractures, are these following:

The Laceration, Contusion, or Corruption of the external Periosteum, of the Vessels lodg'd in the small Cellulæ of the Bones, of the internal Periosteum, and of the medullary Membrane.

All the Bones are cover'd with a Membrane, which not only conveys the Vessels to them, but also receives such as are sent out from them. This Membrane is call'd the Periosteum, and, for the most part, adheres closely to the Bones. It covers the external Surface of the Bones in every Part, except where the Ligaments, which surround and secure the several Articulations, arise from them; for in these Parts the Periosteum is separated from the Bone, and runs upon the Ligament, till it is inserted into another Bone, and adheres to it. By this means the Periosteum, without any Interruption of its Continuity, is convey'd from one Bone to another. The whole Surface, therefore, of the Bones is cover'd with the Periosteum, except that Part of them which is contain'd in the Capsula of the Joints, form'd by the Ligaments surrounding the Articulations: But the Part of the Bone which is contain'd in the Capsula, is rarely or never fractur'd. When, therefore, a Bone is fractur'd, the external Periosteum is almost always injur'd: Besides, the Structure of many Bones is surprisingly cellular; for the smaller Bones, which have not a large medullary Cavity, such as the Phalanxes of the Fingers, together with the Bones of the Carpus and Metacarpus, have their whole Substance full of small bony Cells: But in the larger Bones, which have a large Cavity in their Middles for containing the Marrow, the Laminæ of the Bone, which in the Middle are closely united, recede from each other towards the Extremities of the Bone, and form surprising Cavities, in which Blood-vessels and medullary Globules are lodg'd. If, therefore, such Bones are fractur'd towards their Extremities, this cellular Structure will be destroy'd, the Blood-vessels ruptur'd, and their Contents discharg'd; which, by stagnating, may produce a large Train of Misfortunes. 'Tis, at the same time, equally obvious, that by a Fracture of a Bone the internal Periosteum, the tender Membrane of the Marrow, and the Marrow itself, may be destroy'd, since the last of these is so tender, that in an old Ox it may, by handling it rudely with the Fingers, be reduc'd to the Consistence of a Pulp. How terrible Symptoms may be produc'd by a Corruption of the medullary Oil, is sufficiently obvious from daily Experience. But all these are infallibly dilacerated, if the Extremities of the fractur'd Bone recede from each other, and are laterally apply'd; for then 'tis certain, that every thing contain'd in the Cavity of the Bone is broken: 'Tis true, that the worst Misfortunes to be dreaded from this Circumstance do not always follow such Fractures, but that they may sometimes happen, is sufficiently obvious: Hence 'tis expedient to advertise the Patient, or his Friends, of these possible Consequences, lest, if they should afterwards happen, they should be ascrib'd to the Ignorance of the Surgeon.

As to the Luxuriance of the Vessels of the Bone, from which proceeds an Inequality of the Callus, together with a Tumor and Deformity of the Member; Hippocrates, in his *Coacæ Prænotiones*, informs us, "That Bones, or Cartilages, when broken, do not increase;" And in the nineteenth Aphorism of his sixth Section, he tells us, that "they do not coalesce, or grow to each other." Galen, also, in the seventh Chapter of his fifth Book *de Method. Medend.* affirms, that a Bone can never be united to a Bone, nor a Cartilage to a Cartilage, since in fractur'd Bones the Union is produc'd by the Interposition of a Callus answering the End of Glue, but not by a Concretion of the separated Parts. But, in his first Commentary on *Hippocrates de Fracturis*, he gives his Sentiments on this Subject more fully, in the following Words: "Since the Bones cannot, in consequence of their natural Dryness, grow together like Flesh, a Callus growing about the Lips of the Fracture becomes the means of their Union. But the Origin of the Callus is the superfluous Nourishment of the fractur'd Bone; and when the Patient does not use a proper Regimen, or is plethoric, this superfluous Nourishment is too copious, and, discharging itself, renders all the Bandages wet, just as when the Blood is discharg'd." Hence he seems to insinuate, that the Callus is not form'd of what is properly call'd the Substance of the Bone, but that it is only a Species of Glue, which, interposing itself between

the Extremities of the fractur'd Bone makes them cohere; for a little after he subjoins, "For as Glue is to united Pieces of Wood, such is a Callus to fractur'd Bones." But since it cannot be deny'd, that a Callus at last acquires the Hardness of the Bone, and, since Galen did not believe, that the Callus assum'd the Nature of the Bone, he us'd a pretty uncommon Way of expressing himself, when he says, "Whatever is discharg'd from the Bone, and is concreted about the Lips of the Fracture, is so chang'd by the contiguous Bone, as to become highly like it, and is denominated Callus." Hence he is of Opinion, that this Matter discharg'd retain'd the Name Callus, after it had acquir'd the Hardness of the Bone. After Galen, many seem to have embrac'd the same Opinion: But 'tis shewn under the Article *VULNUS*, that in Wounds the lost Substance is restor'd, and the separated Parts united, not by means of a certain Glue, but by a genuine Restitution produc'd from a laudable Blood by the Assistance of Nature, as Galen himself truly affirm'd in the Passage last-quoted; and under the Article *CAPUT* 'tis shewn, that a Part of the Cranium remov'd by the Trepan, or any other wounding Instrument, grows again. The same seems to hold true in fractur'd Bones, which are again united, not by the Interposition of a certain Glue, but by a true Union of the Substance of the Extremities; and, in those Cases where a Part of the Bone is remov'd, a viscid Humour, which gradually becomes hard, is not interpos'd between the separated Fragments, but the organical bony Structure is renew'd, and the lost Part, by that means, restor'd. This is sufficiently confirm'd by practical Observations. This wonderful Phenomenon is to be ascrib'd to that surprising Property of the human Body, by which it is able, from the Aliments duly chang'd by the Action of the Viscera and Vessels, to restore what is lost, and augment in every Dimension, what is already form'd. Certainly the vital Rudiment lodg'd in the Colluquamentum of an impregnated Egg, after the Structure of the Chicken's Body is form'd, produces, in twenty-one Days, from the White of the Egg, which is highly soft, solid Bones, by which the Chicken not only stands, but runs nimbly as soon as it is excluded from the Shell. The same, therefore, seems to obtain in Bones, with respect to Loss of Substance, and the Union of their divided Parts, which happens in Wounds of the soft Parts, that is, a Regeneration, or true Concretion of the organical Substance, and not an Agglutination by means of a certain glutinous Matter.

As the growing Vessels in Wounds of the soft Parts are highly tender and pulposus, in consequence of their not being cover'd with the Skin, they may easily be too much distended, and degenerate into fungous Flesh. The same holds true in the Callus of the Bones, which may become luxuriant, when the Vessels, which constitute the Substance of the growing Bone, are distended, either by a Redundance, or too strong an Impetus, of the Fluids. But this Misfortune is most to be dreaded in young Patients, in whom the Strength of the solid Parts is less, the Quantity of Fluids larger, and their Circulation generally brisker, than in Persons advanc'd in Years. For these Reasons Surgeons so often observe the Calluses form'd in young Persons to be luxuriant, especially if they feed high. Hence there necessarily follows an Inequality, and a Change of Figure, in the Part. But a Deformity of the Member happens far more frequently, when, before the Callus has acquir'd a due Firmness, the Extremities of the Bone are press'd to each other; for in this Case the Callus, like flexible Wax, is every-where forc'd out, and forms a prominent kind of Ring in the fractur'd Part. This principally happens, when the Patients, after Fractures of the Thighs or Legs, attempt to walk too soon; for, as the whole Weight of the Body is supported by these Bones, the Callus is by this means squeez'd, if it has not acquir'd the Hardness of a Bone.

As for the Distraction, Laceration, Irritation, Compression, and Convulsion of the Membranes, Tendons, and Nerves; these most generally happen, when the Fracture is such, that the Fragments lie over each other; but especially if they are sharp and pointed, which often happens; for in this Case all the adjacent Parts are injur'd and lacerated. The Misfortunes to be dreaded from Injuries or Irritations of the Membranes, Tendons, and Nerves, are enumerated under the Article *VULNUS*. From Accidents of this Kind, Misfortunes of so terrible a Nature often arise, that Hippocrates, in his *Treatise de Fracturis*, advises Surgeons to avoid such Cases, if they can with Honour do it, since there is little Hope, and a great deal of Danger: "For, says he, if the Bones are not reduc'd to their natural Situation, the Surgeon is thought ignorant; and, if they are, the Reduction tends more to the Destruction than to the Recovery of the Patient."

As for the Change, Destruction, and other Misfortunes, of the adjacent Vessels; the worst Misfortunes subsequent to Fractures are rarely produc'd by the Injury done to the Bone itself, but far more frequently by the Fragments of the Bones compressing or wounding the adjacent Parts. Many Vessels

cells are either affix'd to the Bones themselves, or are adjacent to them; and may, therefore, be injur'd or compress'd by the Fragments of these Bones mov'd from their natural Situation. Hence *Hippocrates*, in the Passage last quoted, tells us, that it is a Circumstance of great Moment, whether the Bones of the Humerus and Thigh give way externally or internally, because a great Number of large Veins run along their internal Parts. Now Obstructions are produc'd by all those things, which, by an external Compression or Distraction, render the flexible Vessels narrower than they were before: It is, therefore, obvious, that Obstructions must be frequently subsequent to Fractures of the Bones. And though the Motions of the Humours through the Vessels, thus render'd narrower, is not totally obstructed, yet most of the Functions of the Body are surprisingly disorder'd by this means, since the Soundness of these Functions, in a great measure, depends on the due Proportion of the Trunks of the Vessels to their Ramifications, and of the Ramifications to their respective Trunks. If, therefore, an Obstruction of the Vessels is accompanied with a brisk Circulation of the Humours, by the Fever excited, an Inflammation may be produc'd, together with all its different Terminations, such as a Suppuration, a Gangrene, and a Sphacelus. By a Distraction of the Membranes, Tendons, or Nerves, highly intense Pains are produc'd in Fractures, not so much by the Injury done to the Bone itself, as is obvious from the total Cessation, or, at least, the considerable Diminution, of the Pain, when the Bones are reduc'd to their natural Situation: But when the Vessels are ruptur'd, or only divided by a small Wound, under the sound Skin, the Blood is discharg'd, collected in the Membrana adiposa, and forms an Ecchymosis, as is shewn under the Article *CONTUSIO*. But when an Artery, or a large Trunk of a Nerve, distributed to the inferior Parts, are so compress'd, or destroy'd, that they can no longer transmit their respective Fluids, the Parts below this Compression, or Destruction, are totally depriv'd of the vital Influx of the Humours; in which Case they are either corrupted by a putrid Gangrene, or dried up by a slow Marasmus.

Death is, sometimes, subsequent to Fractures of the Bones, in consequence of the acute Pains, which produce acute Fevers, Deliriums, and Convulsions; or, if such a Gangrene should seize the Part affected, and, degenerating into a Sphacelus, spreads itself to the superior Parts, the Patient, after Watchings, Deliriums, Syncope, and Hiccups, at last dies, as it were, in a gentle Slumber.

Fractures are, almost always, accompanied with Contusion: For an external Force cannot destroy the Cohesion of the Parts of a Bone, without, at the same time, acting on the superincumbent soft Parts. Since, therefore, these are press'd between the wounding Cause, and the subjacent hard Bone, they must necessarily be contus'd. Hence, in Fractures, there is always some Degree of Contusion, except in Cases where, by a Lues Venerea, a Scurvy, or other Diseases of a like Nature, the Bones are become so brittle, that they may be broken by the smallest Force. This Circumstance is carefully to be adverted to, because, when Bones are happily reduc'd, many Misfortunes often arise from the Contusion of the Parts. Hence *Hippocrates*, towards the End of his *Treatise de Fracturis*, in which he recounts the many bad Consequences of Fractures and Luxations, lays it down as an Axiom, that more is to be dreaded from the Contusion, than from the Fracture itself; for, says he, "Those Disorders are slighter in which the Bones are fractur'd, than those in which they are not fractur'd, if, at the same time, considerable Veins and Nerves are contus'd; for these latter Disorders endanger the Patient's Life more than the former, if they are accompanied with a continual Fever." Hence those Remedies which are proper for the Cure of Contusions, are often to be applied to Fractures; for though the Reduction of the fractur'd Bones, and their Retention in their Situation, are Circumstances, which, to the Generality of Surgeons, seem sufficient to answer the general Intention, yet it is sufficiently obvious, from what has been said, that different Methods of Cure are requisite, according to the different Symptoms accompanying the Fracture.

The METHOD of DISCOVERING FRACTURES, according to HEISTER.

Fractures may be examin'd, 1. By the Eye; as when the injur'd Part appears shorter than that which is sound, or the Patient cannot lean upon it. 2. By the Touch, when you perceive any preternatural Inequality or Flexibility of the Bone; where, by the way, I would recommend it to the Surgeon, if possible, to lay the Patient in the Bed, where he is to continue, before he either examines or reduces the Fracture. 3. By the Ear; when you hear a Crashing of the Bones, upon moving or touching the Part. 4. We may, without much Danger, conclude this to be the Consequence of any extraordinary external Violence: Though, 5. it may not be amiss to observe, that we are more liable to Fractures in the Winter, than at any other time. 6. In Fractures, especially transverse, the Parts are frequently restor'd spontaneously to their proper Place, without any

Assistance, and, consequently, leave very little or no Grounds to suspect them. In this Case, therefore, if the Patient, after any external Violence receiv'd, cannot use the Part without great Difficulty, or if it cannot be touch'd or mov'd without great Pain, it is more than probable there is a Fracture. But the properest Method of finding the Truth is to put the Part affected into the Hands of an Assistant, who must move it gently, while you are employ'd in examining, whether any Noise, Hiatus, or Inequality, can be discover'd.

The METHOD of DISCOVERING FISSURES.

As for Fissures, we cannot so easily come at the Knowledge of them, as we have no Assistance from the Sight, Touch, or Hearing; and, therefore, according to *Gouey*, many Surgeons have been deceiv'd. However, if we will give Credit to those who affirm the Existence of them, we shall not want Symptoms to discover them. They say, that, after a Fissure, the Place affected can neither bear the Touch, nor support the superior Parts; that it is accompanied with very great Tumors, and, sometimes, violent Inflammations, Suppurations, and Caries; and that Persons advanc'd in Years, from the Fragility and Rigidity of the Bones, are more liable to them, than young Persons. And, indeed, these Observations seem very well grounded; for it is next to impossible, that the Blood and Sanies, adhering to the Fissures, should not putrefy, and, by corroding the Marrow, the neighbouring Parts, and the Bone itself, produce these Inconveniences.

Of the PROGNOSTICS.

In prognosticating the Event of Fractures, a Surgeon should be very circumspect, and not promise too speedy, easy, or certain a Cure, lest he be disappointed from some unforeseen Accident, and that be imputed to his Ignorance; for Persons unacquainted with the Profession are subject to imagine Fractures the most curable Injury attending the human Body; whereas it is often impossible to restore the Limb to its former Strength and Beauty, even by a skilful Hand. Since, then, some Fractures are inconsiderable, and others very bad, a prudent Surgeon should not only have regard, in his Prognostics, to the Disposition of the fractur'd Part, but also the neighbouring Parts, the Place of the Bone, accidental Disorders, the Constitution, Age, and Habit, of the Patient. But, above all things, let him avoid promising a speedy Cure; for the Patient's Neglect will be often attributed to his Unskilfulness.

Here I would recommend some particular Observations; as, 1. Simple and recent Fractures are much more easily cur'd, than those accompanied with external Wounds, a Luxation, violent Contusion, Hemorrhage, or Caries. 2. Some are cur'd with more Speed and Readiness, others more slowly and difficultly, according to the Difference of the fractur'd Bone; for the small Bones, as the Clavicles and Ribs, will agglutinate within twenty Days; the Radius, within thirty; the Tibia and Humerus require forty or fifty; the Thigh-bone is scarce to be cur'd under fifty, or, perhaps, seventy Days. Though, 3. We must observe, that Fractures unite sooner, and more easily, in healthy young Men, than in the old, and those of an ill Habit of Body.

When the fractur'd Bone is remov'd but a little from its proper Place, it is much more easily reduc'd, than after a great Separation. Transverse Fractures, likewise, are sooner cur'd, than oblique. And those near the Articulations are more dangerous than those in the Middle; for, in the former, not only the Joints are often affected in such a manner, that they become rigid; but the Ligaments, and Tendons too, are generally bruise'd; which often produces violent Pains, Inflammations, Convulsions, and even Death.

If two Bones are broken in the same Limb, the Cure is render'd abundantly more difficult. If, also, one is broken into several Pieces, it is next to impossible to prevent a Gangrene and Sphacelus; at least, you must expect your Cure to proceed very slowly, and the Limb to be unequal: A judicious Surgeon, therefore, would discover this to the Patient, or some of his Family, in due Time.

When a Fracture is immediately reduced, the Reunion will be more speedy and commodious: When, therefore, you are called in some time after the Accident, do not promise too speedy a Cure.

When a Fracture happens near the more noble Parts, it is always dangerous, and often fatal; as of the Cranium, from the Vicinity of the Brain; the Vertebrae, from the spinal Marrow; the Ribs, Sternum, Os Ileum, and Pubes, from the subjacent Viscera in the Breast and Abdomen: Nor is it less hazardous, if any of the greater Veins or Arteries are near, more particularly when the Points wound them; for hence, as most usually the Case is in the Humerus and Femur, mortal Hemorrhages are produc'd.

If the Fragments are so far separated, that they burst thro' the Flesh and Skin, the interjacent Muscles, Nerves, Veins, and Arteries,

Arteries, will prevent the replacing them; and many unexpected Inconveniences will impede the Cure, and deform or weaken the Member, especially the Humerus, Leg, and Thigh, or, perhaps, corrupt it to such a Degree as to render Amputation necessary.

The most convenient Season for the Cure of Fractures, as well as other Diseases, is the most serene and temperate; that is, neither too hot, nor too cold. Your Cure is completed sooner, too, in young Men than old; but in pregnant Women the Cure generally succeeds very ill, till they are deliver'd.

Inflammations, Suppurations, or Fistulæ, are generally the Consequence of a Bone being broken into several Fragments, which will not admit of a Cure, till the Pieces are extracted: But Fractures proceeding from an internal Cause, which are often attended with a Caries, are more dangerous than those from an external, and often incurable, unless the Cause, whether scorbutic, venereal, or hydropic, be first removed, and the Patient's Habit of Body entirely mended.

When any large Fragment of the Bone is carry'd away by a large Iron or Leaden Bullet, it is better to cut off the lower Part of the shatter'd Limb, as the divided Bones can never unite, than by a tedious and fruitless Process to weaken the Patient, and hazard his Life: But if a small Piece only be separated, the Fragments may, indeed, unite, but the Limb will be shorter; and, if this happens in the Leg, the Patient must be lame.

If any Blood gets from the Fissures into the interior Sinus of the Bone, very great Danger of a Caries, or a Spina Ventosa, incurable Fistulæ, Consumption, and Sphacelus, ensue; so that the Limb must be amputated, or the Patient die: And, indeed, in all other Fractures, whenever the Blood corrupts the Marrow, the Consequence is the same.

Fractures in the Legs are worse, and more inconvenient, than in the Arms, as they are less capable of being conceal'd, especially in Men; and they are not only accompanied with Lameness, but even a Deformity, and therefore require the utmost Care in the Management of them.

THE CURE OF FRACTURES.

In curing of Fractures, the principal Concern should be the Agglutination of the Bone: Take care, therefore, 1. That it is reduced to its proper Situation; and this is done by Extension and Reposition. 2. After Reduction, apply a proper Bandage, and prescribe Rest to your Patient. 3. Prevent, or remedy, the Inconveniences that may ensue; and the Surgeon will be qualify'd for this, if he knows, first, how the Bones are situated, whether there are one or more in the Limb; whether they are large or small, robust or spongy, even or uneven; and, whether one, or more, be fractur'd. 2. What Muscles are near, with their Position and Office. 3. Whether any of the larger Nerves, Veins, or Arteries, are near. For a thorough Knowledge of these Things conduces very much to a successful Cure.

When the fractur'd Bones continue in their natural Position, a proper Bandage will promote the Agglutination of the Fragments, without Reposition or Extension; though, as often as they recede from each other, some Degree of Extension is absolutely necessary, which must always be proportion'd to the Distortion of the Fragments; for the wider the Separation, and the shorter the Limb, from a Contraction of the Muscles, the greater Extension is required. But this Operation must be performed tenderly, lest too great Violence should injure the Patient.

In extending a fractur'd Limb, care is to be taken, 1. That the Patient is kept steady, to prevent his giving Way to the Extension. The Posture must be accommodated to the Circumstances; for sometimes sitting in a Chair, or on the Floor, sometimes lying on a Bed or Table, is more commodious. 2. The broken Limb, both above and below the Fracture, must be held by an Assistant. 3. The Assistant, who holds the lower Part, must extend it with Strength sufficient to replace the Fragments. But, if the Hands alone are not sufficient, use a Rope or Napkin; and, if one Man is not enough, employ two or three. Observe always to proceed with Tenderness, that you may not rack the Patient with unnecessary Tortures.

The Ancients, as often as the Hands, Ropes, and Napkins, failed them, which was not very often, invented several Machines for the Reduction of Fractures; as the Pullies with Ropes, the *Scammum Hippocratis*, and others represented by *Oribasius*, *Paré*, *Andreas a Cruce*, *Scultetus*, and other Authors. But the Moderns have rejected them, as their Action is unequal, and Application inconvenient; nor can they be always at hand in a Battle, and other proper Places, where wanted. Besides, it is certain, that the Hands, Ropes, and Napkins, will answer every End propos'd.

There remains one very important Observation relative to the Extension of fractur'd Bones; which is, that if the Sur-

geon is call'd in, after Tumors, or violent Inflammations, come on, he ought to defer the Extension, till they are remov'd: For, under these Circumstances, the Parts affected cannot be handled, compress'd, or extended, without most acute Pains, Convulsions, and the Danger of a Sphacelus: But if the Tumor or Inflammation are slight, we may safely proceed to Extension directly, in order to prevent their Increase.

If the Inflammation is so violent, as to render Extension impracticable, the first Care must be to mitigate this Symptom; and the Rules laid down under the Article *CONTUSA* will answer this End, as Bleeding, Purging, drinking aqueous Fluids, internal Medicines which resist Inflammation, and the frequent Application of warm resolvent Fomentations: By the Help of these, the Inflammation will gradually abate; so that in twenty-four Hours the Extension of the Limb may be made; though, instead of the above-mention'd Fomentations, the following may be us'd with very good Effect:

Take of the Leaves of Scordium, two or three Handfuls; Water, one Pint; Spirit of Wine, six Ounces: Let them boil together for a Quarter of an Hour; and then add, of common Salt, an Ounce; of Nitre, half an Ounce. Let Linen Cloths, impregnated with this Decoction, be bound upon the fractur'd Part, and frequently renew'd.

When the Inflammation is so violent, that you cannot the next Day reduce the Bone, continue these Medicines, till the Disorder is entirely remov'd.

Sometimes the Splinters, which irritate the neighbouring Parts, prevent the Reposition of the Bone: If, therefore, these are loose, they are to be taken out; if they adhere to the Periosteum, cut them off; for they never will unite, and, consequently, will prevent the Cure: But if they adhere firmly to the other Parts, and do not obstruct the Restitution, first, reduce the Bone; and, after the Application of proper Bandages, leave them, either till they are resolv'd by Suppuration, and come away without great Pain to the Patient; or, till they unite with the Bone; after which, you must never attempt to extract them, but rather restore them, as near as possible, to their former Position, by which means they often agglutinate; but, if this does not happen, they must be extracted in the best Manner you can.

When the Fragments or Splinters are so prominent as to hinder the Reposition of the Bones, you must consider whether they can be reunited or not: And this will appear to be practicable, if they are not too widely separated from the great Bone, and much Flesh is not interpos'd between: But, when they can neither be restor'd nor agglutinated, they must be remov'd by a sharp strong Forceps (see *Tab. XXIX. Fig. 1.*); or, when they are firm and thick, by a fine Saw, (see *Tab. XXVIII. Fig. 9.*) so far as is requisite. When this is done, proceed to the Extension and Restitution of the Bone; for, till then, the Bones can seldom be replac'd or united.

If the Splinters lie concealed under the Skin, so that they cannot be reached with the Hands, first try to reduce them: If that cannot be done, make an Incision in the Skin, and extract them.

The best Method of Extension has been already specify'd. The Surgeon is to take hold of the Part, which is extended by two Assistants, and to press it sometimes outwards, sometimes inwards, sometimes upwards, sometimes downwards; and to put it into different Positions, according as the Circumstances of the Case require, till every Splinter appears to be restored to its natural Position.

You may judge whether the Fragments are reduc'd, from an Absence or Remission of Pain, and from the Limb recovering its former Shape and Length: If these Appearances fail, you may safely conjecture the Reduction not to be complete; and then you must continue the Extension, till the Bone is entirely restored.

After a Reduction of the Fragments, keeping them in their proper Situation alone will promote the Reunion.

The Methods for procuring a Reunion are principally these: 1. To apply a proper Bandage: 2. To place the Limb in a convenient Position. To the first belong Rollers, Compresses, and Splints of Pasteboard or Wood; and, sometimes, of Copper, Brass, Tin, Iron, or Lead (see *Tab. XXIX. Fig. 7.*); but I should recommend principally those of Wood or Pasteboard. The Method of Dressing is, first, to apply a Bandage round the fractur'd Limb; upon this lay Compresses and Splints; then fasten them firmly with Fillets, or by Tying. In some Cases, Boxes of Pasteboard, Wood, or Metal, (see *Tab. XXX. Fig. 9.*) and other Instruments, are requisite (see *Art. FASCIA.*). And some of these are proper for simple Fractures, others for compound; but they all tend to this, that the reduced Bone may be secured in its Situation, and unite the better: It, therefore, is no Wonder, that the Want of Rest, or of a proper Bandage, shall render the Cure unsuccessful.

Some

Some of the Moderns apply a Plaister before the Bandage ; but others, with good Reason, reject this Practice, not only as unnecessary, but often hurtful : For, besides that Plaisters are ineffectual without Bandages, and that Bandages will retain the Fracture without them, there is this additional Inconvenience, that they obstruct the Pores of the Skin, and occasion Tumors, Inflammations, and violent Itchings : But, to speak my own Opinion freely, I am convinced from Experience, that most Fractures may be cured without Plaisters : However, if any one will apply them, let them take care, that they be not too long, nor the whole Limb surrounded with them, but a Part about a Finger or Thumb's-breadth left bare, lest, if a Tumor arises, they should prevent the Circulation of the Blood, and produce a Gangrene or Sphacelus.

Since we have already treated of Bandages at large, we shall here only give a brief Explanation of the Apparatus ; and, since the principal Hopes of completing a Cure seem to depend on them, we must be very careful, that they be not only of a proper Length and Breadth, but likewise adapted to the Shape of the fractured Limb. In simple Fractures, we apply two single-headed Rollers, in such a manner, that each begins upon the Part affected, the one after two or three Rounds ascending, the other descending in a contrary Direction, and then ascending again.

We must here observe, that Bandages, the more tightly they are bound, retain the Fragments the more firmly ; but since, when too straitly obstructing the Circulation of the Blood, they occasion Tumors, Inflammations, and a Gangrene, and, on the contrary, if too lax, they will come off, and quit the disunited Parts, a just Medium is carefully to be observ'd. The State of the Bandage may be thus discover'd : When the Extremity of the Member, some time after the Application of the Bandage, swells a little, it is right ; for, if it swells too much, it is plain your Bandage is too tight ; if not at all, it is too lax. In one Case, therefore, it must be render'd straiter, in the other it must be relax'd.

The Compresses and Splints ought to be suitable to the Size of the fractured Limb ; and if that is unequal, as in the Legs, the Compresses should be folded, (see *Tab. XXX. Fig. 13.*) so as to fill up the lesser Part ; for then the Splints may be more commodiously and firmly apply'd. The Splints must always be ty'd with three Strings, beginning with that in the Middle.

If the Arm is fractur'd, after a proper Deligation, suspend it in a Sling about the Neck ; if the Leg, place it either in a Straw-bed, (*Tab. XXX. Fig. 5.*) or a Box, (*Tab. XXX. Fig. 9.*) with a Pillow and a smooth Board under it, extending from the Bottom of the Foot to the Thigh, for the more commodious Situation, as appears more plainly from what we have already said under the Article *FASCIA*. And these Machines must be fasten'd with three or four Strings about the Leg, to keep it fix'd. Some use a Pillow for this Purpose, which they bind firmly under the Limb after the Bandage. Others use wooden Boxes, which *Solingen* and *Scultetus* have both described. But the most judicious of our modern Surgeons, prefer the Straw-bed, as it is not only convenient for retaining the fractur'd Bone, but also more easily made. To this they often add a sort of a Sole made of Wood or Pasteboard, (*Tab. XXX. Fig. 6.*) which retains both the Foot and Leg ; and, to prevent its being troublesome to the Foot, they cover it well with a soft Compress, (*Fig. 7.*) and fasten it to the Straw-case with the Strings (*a a a, Fig. 6.*) Then they sew a Piece of Linen, in the Shape of a Ring, furnish'd with Strings, (*b b, Fig. 8.*) to the lower Part of the Compress, to suspend the Heel, lest, by lying on it too long, as it frequently happens, Inflammations, Pains, and, perhaps, more dangerous Symptoms, should be excited. Over the Leg form an Arch, either with a Hoop of a Tub, a Drum, or a Bushel (see *Tab. XXX. Fig. 10.*) : For this not only prevents the Bed-clothes from being offensive, but makes it more easy to cover the Part with warm Napkins, or any other Linen Cloths.

The Patient should lie on his Back, with his Head and broken Leg somewhat elevated, to prevent sliding down ; and a Rope should be fix'd either to the Tetter of the Bed, or a Beam, that he may raise himself at Pleasure. If he is of a plethoric Habit of Body, open a Vein, lest ill Consequences should ensue. It is the Duty of a Surgeon, at first, to be frequent in his Visits, and examine the Bandage accurately, whether it be tight, and in its proper Place ; for, if it is removed, he must immediately replace it ; if too strict, relax it ; and, if too loose, straiten it. As for Diet, the Rules laid down, under the Article *VULNUS*, are applicable to Fractures.

The first Dressings may be taken off either sooner or later, as the Nature of the Case requires ; for, without a Necessity, it should not be renewed under five or eight Days : But when Inflammations, Pains, or Itchings, arise, or the Bandage is found too tight, or too loose, as it often happens, it must be immediately renewed : In the second and third Dressing, proceed as you did in the first. Though it may not be amiss, if there is no Tumor, to make the Bandage somewhat more firm at the

third Dressing, which will prevent the Growth of a deformed Callus, and promote the Consolidation of the Fracture.

If any of the Symptoms mentioned above denote a Fissure, *Wurtzen* directs the Application of his Plaister, with Compresses proper for Fractures, and keeping the Patient quiet for several Days, by which means the Tumor will abate. When the Swelling is large and soft, he directs Incision ; after which the corrupted Fluid must be squeezed out, and a Tent, dipt in his yellow Ointment, put into the Wound, applying afterwards a Bandage proper for Fractures complicated with a Wound. On the contrary, Unguents, Cataplasms, Fomentations and Baths, according to him, are so far from removing this Disorder, that they increase it. For the collected putrid Matter, by gradually corroding the subjected Parts, and principally the Bones, causes a Caries, and other bad Symptoms. And tho' these are generally attributed to the Gout, and Defluxions of Humours, he informs us, that they frequently proceed from such Fissures. *Gouey* is of Opinion, that recent Fissures may be cur'd by Bandages only.

Wurtzen's Plaister is thus prepar'd :

Take of pure white Resin, two Pounds ; of common Turpentine, half a Pound : Whilst these are melting over the Fire, throw in four Ounces of the powder'd Root of *Ulmaria* (Meadow-sweet) ; and stir them together, till all cools. When this is to be spread, upon Linen Cloth, or Leather, it must first be put into hot Water. *Wurtzen* attributes great Virtues to this Plaister.

If a Fracture is complicated with a Wound, after Reduction, it must be treated almost in the same manner as other Wounds. First, cleanse it with warm Wine, Spirit of Wine, or Salt-water ; then fill it with dry Lint, to stop the Hæmorrhage : Thirdly, anoint it with some digestive Ointment. And lastly, with a vulnerary Balsam, till it is entirely healed. But since the Bandage must be loosen'd daily for the sake of cleansing the Wound, and the Limb must by no means be moved, it certainly ought to be very short, particularly if the Fracture is in the Thigh or Leg ; for as you cannot carry the Roller round the Part affected without lifting up the Leg, it almost necessarily follows, that the Bone, after a Reunion, will be disturbed, and consequently not agglutinate neatly. Therefore the best Surgeons have rejected the longer Bandages, and substituted in their room that of eighteen Heads (see *Tab. XXX. Fig. 4.*) ; as it is sufficient to keep the Limb quiet, and sustain it properly. But when the Wound is healed, and the Fracture not agglutinated, it is convenient to leave off the eighteen-headed Bandage, and apply the narrow, long, simple Roller, till the Cure is completed. But this will appear more plainly by the Article *FASCIA*.

If an Ulcer accompanies a Fracture, especially in the Leg or Thigh, as this must be opened every Day, like a Wound, after Reduction, apply the eighteen-headed Bandage, till the Ulcer is healed ; then, laying that aside, use the narrow, long, simple Roller, till the Bone is consolidated, as we directed for a Fracture with a Wound.

Sometimes a Fracture happens in a Part of the Bone, where there have been an Ulcer and Caries for some time. The Cure then is difficult, if not impossible, and very few Writers have propos'd any proper Method in this Case. *Petit*, indeed, mentions an Instance, where a fractur'd Leg was attended with a Caries ; but this, since he speaks of no other, is very far from being a sufficient Guide. However, it may be of some Service, till we can find a better. There was a young Man, says he, about the Age of Twenty, who having been a long time troubled with an Ulcer and Caries about the Tibia, broke the Bone in that very Part, and the Fibula remain'd entire. Here he found Extension unnecessary, but, first removing all the vitiated Flesh near the Fracture, he reduc'd it with his Fingers, and filled the Ulcer with dry Lint, applying Compresses, and the eighteen-headed Bandage, as to a Fracture with a Wound ; then placed the Limb in a Straw-case. Some Days after, when the Fever abated, he cauterized the Extremity of the Bone, where the Caries was ; and then took off the carious Parts with an exfoliating Trepan : He then apply'd Lint moistened with Tincture of Aloes, to the bare Bone, having first used a digestive Ointment to the Flesh, and afterwards the Unguentum Fuscum, to check the luxuriant Flesh, which is very prejudicial. This he continued for fifty Days, till the corrupted Parts of the Bone exfoliated. Lastly, he produc'd a new Flesh by the vulnerary Balsam ; and then agglutinated the Ulcer, and Bone, after the usual Method.

But the Case of a fractur'd Thigh with an Ulcer and Caries, which *Petit* has made no mention of, is much more difficult. I knew a Student, about the Age of Twenty, who, for several Years, had an Ulcer with a Caries, in the middle and internal Part of his Thigh, where the crural Artery descends. The Caries, from the Thickness of the Flesh in this Part, was invisible ; neither could the Ulcer be enlarg'd with a Knife,

Knife, or the Bone cauteriz'd, on account of the Vicinity of the great Artery ; so that all the Medicines, which were applied, prov'd ineffectual. At length, in Walking, without any external Violence, his Thigh was broken in this very Part. Here, again, we could neither enlarge the Wound, nor cauterize the Bone, for the Reasons above-mention'd. And though the Bone was reduc'd, and a proper Bandage applied, yet it would never heal, and the Patient led a miserable Life. It is, therefore, the Duty of every one to consider, how such a Fracture in the Thigh, Arm, and other Parts, where the Bone does not appear, nor can be safely laid open, should be treated, which would be somewhat difficult to discover.

A Surgeon, after having reduc'd the Fracture, and given proper Directions for keeping it at Rest, has done his Duty ; for Nature herself, by inducing a Callus, performs the Agglutination. From the little Arteries, and bony Fibres, of the fractured Parts there sweats out a certain Gelly, or liquid viscid Matter, which adheres to the Chinks like Glue. This, being first converted to a Cartilage, then to a harder cartilaginous, and, at last, to a bony Substance, unites the Fragments so firmly, that any other Part may be broken sooner than this ; as is observable in Planks join'd with Glue.

But as in Wounds the new Flesh, so in Fractures the Callus, is sometimes too luxuriant, rendering the Limb uneven and deform'd. When this happens, and cannot be prevented, the Surgeon should acquaint his Patient with it, lest the Disproportion be imputed to him. Nor can this Excrecence of the Callus be always prevented, or, when it is come to a Pitch, be cut off, like luxuriant Flesh, for many and good Reasons : It is therefore incurable.

But too great a Luxuriance of the Callus may, in some measure, be prevented, by binding the Part pretty tight, and bathing it with rectified Spirit of Wine ; for this will not only suppress, but harden, the viscid Matter. I would recommend this particularly in the Arms of Women, and the Legs of Men, as they are the most conspicuous Parts of the Body. But, if the Callus is already indurated, scarce any Remedy can be found, either to remove or suppress it ; though some say it may be successfully check'd by the Application of the *Emplastrum de Ranis cum Mercurio*, binding a Leaden Plate over it. This Callus grows sooner or later, according to the different Size of the fractured Bone, the Habit of the Body, Temperament of the Air, and the Age of the Patient. When it is observ'd to be too slow in its Progress, some promote it by giving frequently half a Dram of Osteocolla to the Patient.

The best Method to prevent an Itching is the Removal of all fat and oily Applications, and even Plaisters ; for they are of such a Nature as to obstruct the Pores of the Body entirely. If this does not answer the End, it will be proper to bathe the Part with warm Wine, Spirit of Wine, or Oxycerate, and to make the Bandage with clean soft Linen. If there are any Blisters, they may be cut with the Scissars.

Inflammations may be treated in the Manner directed under the Articles INFLAMMATIO, CONTUSIO, and VULNUS. But, for Pains and Convulsions, observe what is said under the Article VULNUS ; but particular Care must be taken, that the Fragments be replac'd ; and, if any are loose, let them be extracted, and the Limb put in the most commodious Posture : Though the best Method is to open a Vein, and apply resolvent Cataplasms, and Fomentations ; not neglecting, in the mean time, internal Medicines, and a proper Diet ; for, without these, violent Inflammations, a Sphacelus, and Death, will often ensue.

But if the Inflammation is so violent, that you apprehend a Mortification ; first, let Blood ; then apply an eighteen-headed instead of the long simple Bandage, with digesting Fomentations, either of Lime-water with camphorated Spirit of Wine, and Essence of Aloes and Myrrh ; or of Spirit of Wine camphorated, and Sal Ammoniac ; or the Medicines already prescribed above for the Mitigation of Inflammations. But, if the Mortification already appears, you must make frequent Scarifications and Incisions, to let out the stagnating Humours, not forgetting the Fomentations just recommended ; and, when the Gangrene has gain'd such a Head, that Fomentations will avail nothing, and the Sphacelus approaches, the Limb must be amputated, to prevent the Corruption from spreading.

If an Hæmorrhage attends a Fracture, you must search diligently for the ruptur'd Vein or Artery, and check the Profusion of Blood, either by Pressure, or a proper Application of Lint, Compresses, and Bandages ; or by a proper Ligature of the affected Vessel ; or, lastly, by the Cautey. After this, reduce the Bone, remove all the extraneous Bodies which can readily be come at, and then apply the Bandage.

If a Fracture is accompanied with a Palsy, or Wasting of the Limb, there is but little room for Hope. Though it is proper, in this Case, (1.) To rub the Part affected with warm Cloths, often and diligently. (2.) To anoint it with strong Spirits, as the Spirit of Ants, Earth-worms, Hartshorn, Sal Ammoniac, or the Spiritus Matricalis of the *Leyden Dispensatory*. II.

tory, Essence of Euphorbium, and Castor. (3.) To foment it with warm Fomentations, and Baths made of Wine impregnated with strengthening, aromatic, and nervous Vegetables, or natural warm Baths. (4.) But the most proper Method is to put the paralytic, rigid, or tabid Limb into the Bellies of Animals fresh-kill'd, as Oxen, Calves, Swine, or Dogs, as this will promote an Afflux of the Blood and Animal Spirits to the injur'd Part, and recover it ; particularly if it is assisted by internal, nervous, and corroborating Medicines.

As often as a Joint grows rigid, and the corrupted Matter therein is suppos'd to be harden'd ; this the *Greeks* call *Anchylosis* : If it proceeds from an Infusion and Concretion of the Juico of the fractured Bones into the Joint, the Cure will be difficult ; but if it arises from too long Rest, or the Inspissation of the Humour which should lubricate the Joints, it is proper to use frequently warm Fomentations, and rub the rigid Parts with Oils, and Fat of Animals, and emollient Unguents ; and to move it in different Directions, with the Hands, till the natural Power of moving be restor'd.

When a Luxation accompanies a Fracture ; first, reduce that, then the Fracture ; and apply to both a proper Bandage. In some Cases, for Example, where the Fracture is near the Head of the Bone, so that the dislocated Part can neither be taken hold o', nor sufficiently extended, it is better to reduce the Fragments, bind them up properly, and agglutinate them, before you meddle with the Dislocation ; though you must not omit to preserve the luxated Bone from Tumors, and Inflammation, by applying Spirit of Wine, or Spirit of Wine camphorated, or warm Vinegar. But I cannot forbear confessing, that this Method is not always effectual ; for, sometimes, the luxated Parts cannot be reduc'd by any means whatever, afterwards. Mean time, as we have no better Way, this must not be rejected, especially since there are many Instances in Authors, where the Luxation has been reduc'd some Months, and even a whole Year after.

If a fractured Limb, either through the Negligence of the Surgeon, or the Impudence or Inquietude of the Patient, after Consolidation, is deform'd, there is no other Method of restoring it to its prilline Beauty, but employing strong Men to extend, divide, and break it again ; though a repeated Cure of such a Fracture requires the utmost Circumspection. When, therefore, the Deformity and Pain are inconsiderable, and the Callus harden'd, or the Patient old and infirm, it is not only troublesome, but sometimes dangerous ; and, consequently, ought not to be attempted. On the contrary, when the Callus is tender, and the Patient young and robust, you may safely use these means for restoring the Member to its former Shape. Mean time it is necessary to observe, that, before this is undertaken, resolvent and emollient Baths, Fomentations, Ointments, and Plaisters, for several Days, are to be applied to the Callus.

Zwinger affirms, that a Callus may be resolv'd by the Application of the *Emplastrum de Ranis cum Mercurio*, and that in fourteen Days, provided it has not bern form'd above six Months. But *Heister* doubts of this, and leaves it to Experience to be determin'd.

Having treated above of Fractures in general, and of Fractures of the Head in particular, under the Article CAPUT, we now proceed to Fractures of particular Parts, not specified under other Articles.

FRACTURES OF THE NOSE.

Both the Bone and Cartilages of the Nose are liable to a Fracture, from a Fall or Blow. This happens in the Middle, or on the Side, and is discoverable by the Sight or Touch ; for, when either of the Bones in the Front are broken, the Nose will become flat, and the Patient breathes with Difficulty. If a Bone on either Side is fractured, the Part is hollow. When this Accident happens to the Cartilage, the Nose inclines to one Side. This is sometimes a simple Fracture, but more frequently attended with an external Wound ; and, when the Injury is very considerable, the Cure can never be complete, but there will remain some Deformity in the Nostrils ; and, from the Vicinity of the Brain, which is often affected at the same time, it is very dangerous : Belides, Ozena, Caries, or Polypus, frequently succeed, which greatly impede the Smell, Speech, and Respiration.

When the Bone of the Nose is to be reduc'd, place the Patient opposite to the Light, either reclining on a Bed, or an Assistant holding his Head back, whilst you elevate the depress'd Parts with a Probe, Spatula, or Quill ; and externally apply the Thumb and fore Finger of the other Hand. If the Fracture is on both Sides, proceed in the same Method with the other ; and, to prevent their collapsing, fill each Nostril with a Dress of Lint, laying on a Plaister, and such Dressings as are directed for recent Wounds. The Splinters must be forced into their natural Situation by the Fingers ; but, if a Splinter is so far remov'd from the Bone, that it will not reunite, extract it with the Forceps.

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If this Fracture is attended with an external Wound after Reduction, first dress it with dry Lint, covering it with a vulnerary Plaister; afterwards apply balsamic Medicines, as digestive Unguents, Essence of Aloes, Myrrh, Amber, Mastich. Fat oily Medicines must be avoided in this, and all other Fractures, as very improper; but, if there is no external Wound, the Plaister only will be sufficient to secure the Bone; and, unless an Abscess or Caries follow, the Agglutination is completed in fourteen Days. However, as a single or double Support of strong Pasteboard, cover'd with Splints, and adapted to the Nose, (see *Tab. XXIX. Fig. 8.*) sometimes seems necessary, it may be applied to the Side, and fasten'd, but not too tightly, with the four-headed Bandage (see *FASCIA*). Before the Application of the Plaister or Bandage, some introduce a little Silver or Lead Tube, or a Quill, into the affected Nostril, in order to preserve Respiration (see *Tab. XXIII. Letters P and Q*); and, to secure these, as well as the Bone, they use the four-headed Bandage, or a peculiar String fasten'd to the Bandage: Though many Moderns reject this whole Apparatus, except the Splints, Bandage, and Plaister, as unnecessary, and even prejudicial, rather than serviceable, especially since the Patient can seldom bear these Tubes, or even the Tents themselves, as they irritate the Part, and hinder Respiration: Besides, these Bones, once reduc'd, do not easily separate again, as is generally imagin'd.

FRACTURES OF THE JAW.

The lower Jaw is less subject to Fractures than any other Bone; but, when it does happen, either on one or both Sides, the Fragments are not far separated from each other; for the Muscles are so situated, that they cannot separate the Bone far: But, however, the more violently it is injur'd by a Blow or Fall, the more are the Fragments bruise'd, and remov'd from their proper Situation.

As for the Discovery of a Fracture in the Jaw-bone, it is made by the Sight, but, principally, by the Touch; for the Lift will demonstrate, evidently, what is divided in the Jaw, and whether the Teeth are remov'd from their natural Position. Besides, the violent Pains and Convulsions are infallible Signs of a fracture'd Jaw; though, if the Pieces are not entirely separated, it is not so easily discover'd.

The Method of reducing the fracture'd Bones of the lower Jaw, is to place the Patient in a convenient Seat opposite to the Light, and let his Head be held back firmly by an Assistant: Then the Surgeon must introduce his Finger or Thumb of one Hand into his Mouth, and apply the other Hand on the Outside; and with these bring the Fragments together, till they appear to be properly replac'd, which he may know from the accurate Situation of the Teeth. But, when any of the Teeth are loosen'd, or forc'd out, it will be proper, if the Case will permit, to fasten them with Gold or Silver Wire, or Thread, to the next Teeth. If the Jaw is broken on both Sides, you must proceed in the same manner, with one after the other; and you will be the more successful in this, the more you are acquainted with the Anatomy of this Part. When the Fragments are not separated, Reposition is unnecessary.

When you have reduc'd the Bone, first apply a Plaister, then a Compress dipt in Spirit of Wine; and, upon that, if only one Part is broken, lay another Compress, sew'd to a Piece of Pasteboard, in the Form of a half Jaw, provided only one Side is fracture'd (see *Tab. XXIX. Fig. 9.*). Fasten them both, either with a Bandage of four Heads, perforated in the Middle, to receive the Chin, or with the Habena, describ'd under the Article *FASCIA*. When the Jaw-bone is fracture'd on both Sides, then apply, in the same manner, one Compress, moisten'd with Spirit of Wine; and another with Pasteboard, perforated in the Middle, (*Tab. XXIX. Fig. 10.*) and fitted to the Chin, so that the Perforation *a* may be applied to the Chin, and the Extremity *b b* to the Ears. These Fractures, however, may be easily cur'd without Plaisters or Compresses, by a proper Bandage, as they will not, without Violence, relapse after Reduction. For your further Direction, in regard to the Bandage, consult the Article *FASCIA*.

Lastly, to promote the Agglutination of a fracture'd Jaw-bone, it is proper to open a Vein, and recommend Rest to the Patient, and forbid him all manner of Discourse and Manducation, especially at first. Prescribe, therefore, before the Agglutination, Spoon-meats, as Broth, Soup, and Eggs; order him to lie on his Back, and not upon his Face or Cheek; for thus your Cure will be completed in twenty or thirty Days; especially if the internal Part, where the Fracture is, be anointed several times every Day with Honey of Roses.

If the Fracture is attended with a Wound, it must be open'd every Day, and Care taken of the Wound, till it is heal'd. *Le Dran* gives an Example of a Fracture of each Maxilla, in *Obs. Chirurg. 3. Tom. 1.* and one of the lower Jaw, *Obs. 8.* For the Method of treating Fractures of the Clavicle, see *CLAVICULA*.

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FRACTURES OF THE SCAPULA.

The Scapula is fracture'd, either near the Acromion, that is, the Part where it is join'd to the Clavicle, or elsewhere. If the Acromion is broken, it may be easily reduc'd with the Fingers, either elevating the Arm, to relax the Deltoide Muscle, or pressing the Os humeri directly upwards, laying hold of it near the Elbow; but it will slip out again from a very slight Cause, so that it does not agglutinate without great Difficulty; and this even by the Weight and Motion of the Arm, and the Contraction of the Deltoide Muscle: The Consequence of which is, that few Persons, who have met with this Accident, can afterwards lift their Arm up freely. After the Reduction, apply a Compress moisten'd in Spirit of Wine, fasten it with the Bandage commonly call'd Spica, put a Ball under the Ala, and suspend the Arm in a Sling about the Neck. But, if the Neck of the Scapula, which is below the Acromion, or the Acetabulum, be broken, which, from its deep Situation, cannot be well discover'd, and, indeed, but seldom happens, a Stiffness of the Joint, or Inability of Motion, an Inflammation, a violent Abscess, or some other bad Symptoms, and even Death, generally ensue: An Instance of which I saw in a Professor at *Helmstadt*; and it cannot be otherwise, by reason of the neighbouring Joint, the Tendons, Muscles, Ligaments, Nerves, Veins, and great adjacent Arteries, as some of these must be affected by the Fracture. All other Fractures of the Scapula are less hazardous.

In order to reduce the Scapula, an Assistant should extend the Arm forwards, whilst the Surgeon, in the best manner he can, is employ'd in restoring it with his Hands, laying thereon Compresses, and Splints of thick Pasteboard, adapted to the Part, and dipt in Spirit of Wine, or Oxycrate, binding it afterwards with the Fascia Stellata, or Quadriga. See *FASCIA*.

FRACTURES OF THE STERNUM.

The Breast-bone, or Sternum, as well as others, may be depress'd, or fracture'd, by external Injuries, as a Fall, or Blow. After this Accident, the Part is not only in Pain, and unequal, but the latent Veins and Arteries are very much injur'd, or entirely broken; from whence proceed Pains of the Breast, Difficulty of Breathing, violent Coughs, Spitting of Blood, or Extravasations of Blood on the Precordia, or within the Mediastinum, with many other dangerous Symptoms.

Nor are these only, which we have already mention'd, Symptoms of a fracture'd Sternum, but it is plainly indicated, when the Sternum is remarkably or unnaturally disproportion'd, or when it is moveable by the bare Touch of the Fingers, but particularly if a Noise is heard: Though the proper Indication of a depress'd Sternum is, that, besides these Symptoms, there is a manifest Sinus, or Inequality, in the Part.

The properest Method of reducing the Sternum is, to lay the Patient upon his Back, on a Bed or Table, putting under him some hard Pillows, a great Loaf, a Drum, some cylindrical Body, a Tub, or some other large Substance, so as to depress or recline the Shoulders, and elevate or extend the Breast-bone. Then the Surgeon must press, and with some Violence shake, each Side of the Breast; for that both extends the Ribs forwards, and forces the depress'd Parts of the Sternum into their natural Situation. But, as this Method may sometimes fail, it is then proper to make a crucial Incision in the Skin, and elevate the depress'd Part of the Sternum, with an Elevator (*Terebra*) gently screw'd into the Part; and, though this is the most painful Method, yet *Gauy* and *Petit* both recommend it, as the readiest and best. We have already, under the Article *FASCIA*, explain'd the properest way of retaining this Bone. But, if any Blood is collected within the Mediastinum, (as it often happens, particularly when violent Pains under the Sternum continue after Restitution) and causes a Suppuration internally, it will not be amiss to trepan the inferior Part of the Sternum, as we do the Cranium; and, after purging the Breast of the corrupted Matter, to apply a vulnerary Balsam. Lastly, when any Effusion of Blood is discover'd within the Breast, the only remaining Hope is plac'd in a Perforation of the Breast, after the manner recommended under the Article *EMPHYEMA*. As for the Dressings, you must use Compresses dipt in warm Wine, or Spirit of Wine, with the Napkin and Scapulary.

FRACTURES OF THE RIBS.

Sometimes the Ribs are broken or fissured in such a manner, that only the exterior or interior Part is affected, nor do they remove from their proper Place; and then there are very few bad Symptoms, insomuch that it is often not perceivable, so that they reunite spontaneously: But, when the whole Rib is fracture'd, and the Fragments recede from their natural Situation,

Situation, the Case is more dangerous; for these separated Fragments fret the Muscles, and the internal Membrane of the Breast, call'd the Pleura: When these Bones are fractured, they project either internally or externally, and almost in the same Manner as a broken Bow: In the latter Case the Symptoms are not dangerous; whereas, in the former, especially if the Veins or Arteries are injur'd, they are very hazardous, and generally attended with violent Prickings, an Inflammation, a Difficulty of Respiration, Cough, Fever, Spitting of Blood, Suppuration, Hæmorrhage into the Cavity of the Thorax, or cellular Interstice of the Mediastinum, with many other dangerous Symptoms, particularly if the Viscera, which are near, have received any Injury; and, if these are not timely relieved, violent Fevers, Inflammations and Ulcers of the Breast and Lungs, Empyemas, incurable Fistulas, and Caries of the Bones, and even Death itself, will frequently ensue. Sometimes, indeed, it is only a simple Fracture; but, for the most part, it is accompanied with an external Wound; or some acute Fragment irritates the tender Parts, and then there follows a great Profusion of Blood, which is hardly to be stopped; and, if this Blood infuses itself into the Breast, it never can be extracted but by an Aperture, or at least a Dilatation of the Wound, if the Injury be in the bastard Ribs. If the Cartilage is divided from the Bone, we denominate it a Fracture, and treat it as other Fractures.

When the Parts of the fractur'd Rib continue in their proper Situation, or when the Rib is not fractur'd quite through, and the natural Equality of the Part remains unalter'd, or when the Pain is not violent, it is difficult to discover such a Fracture; yet a slight Touch of the injur'd Part will give Pain; on this Account, however, it agglutinates more easily: But, when the fractur'd Parts are separated from each other, you may not only perceive an Inequality by the Touch; but the Noise of the Bones, if they are mov'd, will discover it to the Ear. When any acute Part touches the Viscera, or any Fragment points inward, the Symptoms mention'd above will ensue; from the dangerous Appearance of which, we collect the Danger of the Fracture. A windy Tumor (which the Greeks term *Emphysema*) very often proceeds from a Fracture of the Ribs; for the Wind insinuates itself through a small Wound between the Flesh and Skin into the Substance of the cellular or adipose Membrane; and first inflates the Breast, then the Neck, Head, Belly, and other Parts, as Calves or Sheep are blown up by the Butchers. Of this Mr. *Littre* gives a remarkable Instance in the *Memoirs of the Academy of Sciences* for 1713. and Mr. *Mery* gives another in the *Memoirs* for the same Year. That of Mr. *Mery* is as follows:

A poor Man, about sixty Years of Age, on Monday about Three of the Clock in the Afternoon, had the Misfortune to be thrown down by a Coach, the Wheels of which pass'd over his Breast, and broke the fourth and fifth Ribs of his Left Side in the Middle. His calamitous Situation oblig'd him immediately to apply for Relief to the *Hotel-dieu*, where he was forthwith receiv'd as a Patient.

Upon examining his Body, the Fracture of his Ribs was easily and palpably discover'd: Soon after there appear'd in the same Place a considerable Tumor, occasion'd by a Quantity of Air pent up, and confin'd in the vesicular Texture of the Membrane lying under the Skin. The Surgeon, to whose Care this Patient was committed, did not think it advisable to apply Medicines to the *Emphysema*, because externally he could perceive neither Wound nor Contusion: Nor durst he venture to apply the Bandage commonly us'd for Fractures of the Ribs, for Fear of injuring his Respiration, which was already considerably disorder'd. He contented himself with only Bleeding the Patient; and the Venesection, by Order of the Physician of the Ward, was repeated on the subsequent Days: But, notwithstanding these Measures, the Difficulty of Respiration, and the *Emphysema*, gradually increas'd till the Evening of the *Thursday*, which was the fourth Day of his Indisposition, and the last of his Life.

Next Morning, upon examining his Body, I found that the *Emphysema* had diffus'd itself thro' all its external Parts, except the Soles of his Feet, and Palms of his Hands, so that his Face, his Neck, his Breast, his Abdomen, his Arms, and his Legs, were fill'd and distended with Air, which yielded under my Fingers, when I but gently press'd the Skin, under which it was lodg'd.

Making an Incision in the Skin, and other Integuments, which cover'd the Fracture of the Ribs, I observ'd a very small, and almost imperceptible, Opening in the intercostal Muscles, but without any Ecchymosis. Then laying open the Breast, I perceiv'd a small Portion of the Membrane, which surrounds the Lungs, torn, and one Part of it adhering to the Lungs, and another to a Portion of the fractur'd Ribs: Notwithstanding this, a single Drop of Blood was not discharg'd from the Lungs into the Cavity of the Breast; a Circumstance which to me appear'd pretty singular and uncommon.

After the Discovery of these Phenomena, it was no difficult Task to find out the particular Road the Air had taken in forming this monstrous *Emphysema*; for 'tis obvious, that a Part of the Air, which enter'd thro' the Arteria Trachea into the Lungs, during the Dilatation of the Breast, must, during its Contraction, be carried back thro' the same Passage, whilst another Part of the Air, making its Escape from the Cellulæ of the Lungs, thro' the Opening of their torn Membrane, must pass from the Cavity of the Breast, thro' the small Wound of the intercostal Muscles, and insinuate itself into the Texture of the cellular Membrane; because the Resistance made by it was not equal to the Effort of the Air, which penetrated it; for 'tis by no means probable, that the Air should have insinuated itself into this Membrane during the Dilatation of the Breast, since, in dilating itself, it can only convey into the Lungs a Quantity of Air equal to that, whose Place it takes up by its Dilatation; for, on this Occasion, its Cavity within is enlarg'd in a direct Proportion to the Space it takes up externally; for which Reason, the Air could not insinuate itself into the cellular Membrane, during the Dilatation of the Breast: It must, therefore, have penetrated this Membrane, during the Contraction of the Breast; and, as the Air enter'd into it without creating any Pain to the Patient, who, also, perceiv'd no uneasy Sensation in any Part of his Body, upon pressing the Skin under which the Air was pent up, we have just Reason to conclude, that all the Cellulæ of the cellular Membrane have a mutual Continuation with each other; otherwise this poor Patient had been subjected to the most intense and racking Pains, if the Texture of the cellular Membrane had been broken and lacerated by a forcible Insinuation of the Air.

In reducing the Ribs, you should always observe very particularly, whether the Splinters project internally or externally: In the last Case, the Patient should be placed on a high Chair or Table, and the separated Bones gently restored by the Fingers; after which, apply Compresses dipt in Spirit of Wine, with a Splint of thick Pasteboard, which you must fasten with a circular Bandage, or the Napkin and Scapulary. In the former Case, while the Patient draws his Breath, the Surgeon should press and move gently with his Hands, both the anterior and posterior Extremity of the Ribs, till the depress'd Part recover its Situation. As to the Bandage, proceed as before, omitting only the Pasteboard, and binding the Napkin somewhat looser; but the Bandage must not be unloos'd, unless it is too lax, or some Symptom makes it requisite; and, in these Cases, the Patient must be in an erect Posture whilst it is done: Thus will your Cure be completed within three Weeks or a Month. During the whole Time, according to *Celsus's* Advice, the Patient must avoid Clamour, Talking, Passion, any violent Motion of the Body, Smoak, Dust, and every Provocative to Coughing or Sternutation. If these Rules fail, it will not be amiss to elevate the Ribs by means of a sticking Plaster, as in a Depression of the Cranium. See *CAPUT*.

If any acute Fragments, breaking through the Pleura, cause great Pains, difficult Respiration, Coughing, Spitting of Blood, Inflammation, Fever, and other dangerous Symptoms, an Incision must be immediately made in the Skin, and the Fragments which stick in the Flesh, must be extracted with the Fingers, Forceps, Hooks, or some other Instrument, the Omission of which will endanger the Patient's Life: Open, therefore, a Vein in the Arm, give Glysters, temperating and anodyne Medicines, and prescribe a thin Diet. This Incision is particularly necessary, when neither a Plaster, nor the Constriction of the Breast, before recommended, are sufficient to reduce the Ribs.

When the Signs, mentioned under the Article *THORAX*, indicate that the Veins or Arteries under the Ribs are injur'd, and an internal Hæmorrhage excited, you must open the Breast, about the affected Part, and pass in your Finger, arm'd with Lint or Linen, impregnated with some proper Styptic, till the Bleeding ceases. If the Finger will not perform the Office, you must search for the broken Vessel, and close it, either with a Ligature, or by the actual Caustery. But, to omit nothing which may conduce to cleansing the Wound, the Surgeon ought to keep it open with Lint, if it is in the lower Part of the Breast, as long as is necessary; if in the upper Part, or at the true Ribs, after Agglutination, a Perforation of the Breast, in the inferior Part, will be very proper.

For the Cure of an *Emphysema*, it is proper to enlarge the external Wound of the Skin, if it is small, by Incision, and rub the Tumor gently at every Dressing, or press it towards the Wound, that the included Air may be gradually expel'd. For the Treatment of Contusions, if they are accompanied with a violent Cough or Suppuration, Phlebotomy and other Remedies must be used.

In *Le Dran, Observat. 29. Vol. 1.* there is an Example of an *Emphysema* cur'd by this Method.

When any of the Vertebrae are fractur'd by a Fall, a Blow, or any other external Cause, without affecting the spinal Marrow, then very seldom any thing but the posterior Apophyses, or acute Tubercles, are injur'd, which is not at all dangerous. But, when the Body of the Vertebrae, and, consequently, the spinal Marrow, is injur'd by any external Violence, the Parts of the Arms, Legs, or Viscera, which are below them, become immediately rigid and motionless. It is, therefore, no Wonder, that Death ensues sooner or later, according to the Degree of the Injury. If the transverse Apophyses, which tend towards the Cavity of the Thorax, are broken, then must the Heads of the Ribs, which are inserted in them, be likewise broken, which is a dangerous Case.

We discover a Fracture of the Vertebrae, not only (1.) from an outward Violence, as a Fall, Blow, or Contusion; but, principally, (2.) from the Pains of the affected Part; and (3.) the Touch, Sight, or Hearing.

When the Apophyses are only fractur'd, you may reduce them with your Fingers, applying on each Side of the Spina Dorsi narrow Compresses, moisten'd with Spirit of Wine, and a Splint of thick Pastebord, with the Napkin and Scapulary. This will easily and speedily reunite the Bones of the Vertebrae, as they are soft and spongy.

If the spinal Marrow is wounded, Death follows inevitably; though, as it may seem cruel not to attempt the Relief of one under these unhappy Circumstances, the Surgeon should lay the injur'd Part bare by the Knife, and elevate the Fragments, which press upon the Medulla, in a proper manner, or, when they are quite loose, extract them; then let him cleanse the Wound thoroughly, and apply balsamic Medicines, using the Napkin and Scapulary. He must continue this, till the Wound heal'd, or the Patient dies.

FRACTURES OF THE OS SACRUM.

It sometimes happens, that the Os Sacrum is fractur'd by a Fall, or some violent Blow; and this appears from the Pain the Patient undergoes, but, principally, from the Touch, as in other Fractures.

When this happens, the Fragments should be immediately reduc'd with the Fingers. But, if they are depress'd internally, the best Method is, after cutting your Nail close, to introduce one Finger, moisten'd with Oil or Butter, into the Anus, and raise the Part depress'd into its natural Situation, and, with the other Hand, to reduce it externally. Having done this, apply a Plaster suitable to the Fracture, and Compresses dipt in warm Spirit of Wine, with the T Bandage, or only Compresses impregnated with Spirit of Wine, with any Bandage. Lastly, to promote Consolidation, let the Patient lie quiet in his Bed, upon either Side, for about a Fortnight; or, if he chuses sometimes to sit, put him in a Chair, without a Bottom, that the Bones may not separate again.

The Os Innomiatum is seldom fractur'd; but, when it is, the Danger is great; because the adjacent Parts are generally affected, and bad Symptoms ensue, especially if the Patient discharges by Vomit a brown or bloody Matter. In reducing it, the Patient must lie on the sound Side; the fractur'd Parts must be restor'd with the Hands; and Compresses, dipt in Spirit of Wine, must be apply'd, which are to be fasten'd with the Spica. After this, open a Vein, give temperating and resolving Medicines, and prescribe a thin Diet.

FRACTURES OF THE HUMERUS.

The Os Humeri is liable to be fractur'd, either in the Middle, where the Danger is small, or near the superior or inferior Head, where the Fracture is worse, attended with greater Pains, and cur'd with greater Difficulty. It may be easily discover'd, as it is apparent to the Senses; but the Bandage, and Method of Cure, is different, according to the Difference of the Parts affected; sometimes the fractur'd Bones remain in their proper Situation, but much more frequently separate; and one, slipping over the other, makes that Limb shorter than that on the opposite Side; and it sometimes, though rarely, happens, that the Weight of the Arm causes the Fragments to recede from each other. However, in the first Case, they are reduc'd with great Ease; in the latter, more Strength is requisite to restore them, especially if the Patient's Nerves and Muscles are strong, as they usually are in robust Men.

When the Os Humeri is fractur'd, the following is the properest Method of extending it: The Patient is plac'd upon a high Seat; then one Assistant, the Patient's Elbow being gently bent, takes firm hold of his Arm above the Fracture, and another below it, which last extends the Arm in a direct Line, while both pull in opposite Directions. The Surgeon himself takes the fractur'd Part in his Hands, and, when the Bone is sufficiently extended, reduces it; then he applies a Bandage, in the manner directed under the Article FASCIA. If

one Assistant cannot complete the Extension, you must employ two; and surround the Heads of the Joints with Napkins, or Linen Bandages; and pull different Ways, till the Limb becomes longer than it ought to be naturally; and then the Surgeon, with his Hands, must replace the Bones in their proper Situation.

FRACTURES OF THE CUBIT.

The Cubit has two Bones, the Radius, and the Ulna: In a Fracture, therefore, of the Cubit, either one or both are broken; and that sometimes in the Middle, sometimes at the Extremities: If both are broken, each is the more easily remov'd out of its proper Situation, but, for that Reason, reduc'd and agglutinated with the more Difficulty; if one only, it is not so readily remov'd out of its Place; and, therefore, the Reduction and Retention are more easy; for one entire Bone is more serviceable than any Bandages or Splints whatever. When the Fracture happens near the inferior Head, the broken Bone, by reason of the Musculus Quadratus, and that strong Ligament which lies between the two Bones, is attracted towards the entire Bone, which makes the Reduction difficult; and this ought to be principally consider'd both in that and the Prognostic.

A Fracture in these Bones is discoverable by the common Indications of Fractures. The Touch, or Sight, by moving the Hand of the affected Cubit inwards and outwards, will certainly indicate whether one or both are broken, and in what Part; though a Fracture of the Ulna, from its Inability to support the Joint, will shew itself sooner than that of the Radius: The Ear likewise will assist in this Discovery; for, if you take firm hold of the superior Part of the Elbow, and move the Hand inwards and outwards, you will perceive a grating of the Bones.

If the Radius is to be reduc'd, and the Fragments have receded towards the Ulna, an Assistant should stretch the Arm, and the Surgeon press down the Patient's Hand towards the Ulna, till the depress'd Part is elevated. After this, the Arm must be compress'd on each Side, with the Palms of both Hands, so as to restore the compress'd Muscles, between the Ulna and Radius, and Fragments of the Radius, to their natural Position; then bind up the Arm, as we have directed under the Article FASCIA, placing it in a Case of Pastebord, or thin Wood (see Tab. XXIX. Fig. 14.); and suspend it in a Sling about the Neck.

In reducing, binding up, and suspending the Ulna, follow the Method prescrib'd for the Radius; only here remember to turn the Hand towards the Radius, or Thumb, till the depress'd Part of the Ulna has recover'd its former Position.

When both Bones of the Arm are fractur'd, proceed in the same manner as you would with either of them singly; but here you must employ more Strength and Circumspection, both in reducing and retaining them; nor can you be too careful in the Bandage; but, above all, use your utmost Endeavours to prevent the Mucilage of the Joints from growing hard, the Ligaments from becoming rigid, and the Arm or Elbow motionless, by keeping it quiet too long. It will not, therefore, be amiss, to turn and extend it cautiously, every two or three Days, and foment it sometimes with Oil, or warm Water, for this will preserve its natural Mobility.

FRACTURES OF THE CARPUS.

The Bones of the Carpus, as they are very small, are seldom broken; though this sometimes happens by a violent Blow with a Beam, Stone, or some other heavy hard Body; and then there scarce remain the least Hopes of a perfect Cure; for these minute Bones can never be properly replac'd, much less will they consolidate; and the Ligaments and Tendons are, for the most part, very much bruise'd; and, consequently, the Joint of the Hand becomes rigid and immoveable; and Abscesses, Suppurations, Fistulas, and a Caries, generally ensue; which, by reason of the Tenderness of the Bones, and Difficulty of extracting the Pus, is seldom reliev'd but by an Amputation of the Hands. Thus Ruysch, and others, saw a Fracture of this Kind, which was not cur'd in three Years.

However, as the Surgeon ought to attempt any thing, rather than leave the Patient destitute of Hope, let one of his Assistants lay hold of the Part of the Arm near the Carpus, the other of the Hand itself, and pull in opposite Directions, as much as is necessary; after this, he should reduce the fractur'd Carpus, as well as he can, with his Hands, and bind it up properly.

FRACTURES OF THE METACARPUS.

As the Metacarpus is much more frequently broken, so is it in general more easily reduc'd, because the Bones are large; for the Performance of which Operation, an Assistant must extend the fractur'd Hand upon a smooth Table, and the Surgeon restore the separated Bones, as exactly as he can, with his Fingers; after which, he must apply a proper Bandage.

See

See an Example of a fractur'd Metacarpus, complicated with a Wound, in *Le Dran, Obs. 56. Tom. I.*

FRACTURES OF THE FINGERS.

When one or more Fingers are fractur'd, your principal Care should be, accurately to reduce the fractur'd Parts, remov'd out of their Places, to their proper Situation, and then to make a proper Bandage, with a narrow Fillet, fastening it to the next Finger, as is directed under the Article FASCIA; where the Method is also laid down of proceeding, when more Fingers than one are injur'd; though, when the Collision of the Hand or Fingers appears to be very great, so that there are no Hopes of a Reunion, it is better to amputate them, than torment the Patient with tedious Pains, and, perhaps, endanger his Life.

FRACTURES OF THE THIGH.

The Thigh-bone, which is the thickest of the whole Body, may be fractur'd in the Middle, or near the Joints, but most frequently at that Part which Anatomists call the Neck of the Femur, near the Juncture with the Os Coxæ: When this happens, it is no small Difficulty to restore and retain it in its proper Situation. Sometimes this Bone is fractur'd in two Places, and then the Danger is great; for, if the Patient survives, which is rarely the Case, he is generally lame: Sometimes the Fracture is transverse, sometimes oblique; and one Bone slipping over the other, renders the Cure difficult; for the Muscles, being very strong, and violently contracted, draw the inferior Part upwards, so that they are neither extended, nor reduc'd, without very great Force: So likewise oblique Fractures of the Femur slip out again more easily than the transverse, and, for the most part, leave the Limb shorter than its opposite, though the Surgeon has perform'd his Office with the utmost Skill. It is, therefore, proper, besides the Directions we shall immediately give, to retain an oblique Fracture of the Thigh by a strict Bandage, lest the Fragments should separate again.

In reducing the Os Femoris, consider whether it is fractur'd near the Neck, or in any other Part; for an exact Knowledge of this is necessary to a successful Restitution, and the Application of a proper Bandage; for, as often as it is fractur'd in the Middle, or nigh the inferior Head, it must be extended and reduc'd with the Hands, like other Bones; only here a greater Violence, especially in strong Men, is requisite for the Extension; and, therefore, you must employ more and robuster Assistants, to pull this Bone, in different Directions, with their Hands; and, if their Hands are not sufficient, with Slings, Napkins, or Linen Bandages, tied round each Head of the Thigh, while you yourself reduce the Fragments properly.

When neither the Hands, Slings, nor Bandages, will extend this Bone sufficiently, which seldom happens, you must use *Hildanus's* Belt or Girdle (see *Tab. XXIX. Fig. 17.*). This is to be buckled very tight above the Knee, being first pass'd through the Eyes of the Hooks A A, upon which you fasten a small strong Rope B B, which is to be extended, as far is requisite, by the Hands applied to C, that the Fragments may be reduc'd to their proper Places. And this is as convenient for the Extension of the Cubit and Humerus, as for the Thigh-bone. If the Arm is to be extended, fasten it above the Hand; if the Humerus, above the Elbow.

But, if this Belt fails, it is necessary to have recourse to the Pulley, or Polyspastus (see *Tab. XXIX. Fig. 15.*). One Hook, A, is to be fasten'd on the Cord of the Belt at C (in *Fig. 17.*); the other, B, to be hung on the Ring A, of the Screw (*Fig. 16.*); which is first to be screw'd tight into a Beam; then the upper Parts of the Patient are secur'd by Slings, Napkins, or strong Linen Bandages, that he may not give way; and the Rope C, (*Fig. 15.*) being put through the Polyspastus, must be drawn till the Bone is sufficiently extended, that is, till it can be conveniently reduc'd by the Surgeon. We must here observe, that the several Pullies, E, D, promote the attractive Power so far, that, by the Help of this Machine, one Man can do more than ten or twelve without it.

A FRACTURE OF THE NECK OF THE FEMUR.

When the Neck of the Femur is fractur'd, as it often is, partly by reason of its transverse Situation, and partly because of its spongy brittle Substance, according to *Hildanus* and others, the Reduction is not only difficult, but the Limb generally shorter than the other, and the Patient lame. For (1.) the prodigious Thickness and Strength of the Muscles not only occasion this Difficulty in the Reposition; but, (2.) after that, though it is perform'd in the best manner, the Fragments will be very subject to separate again, because the inferior Part of the Femur will be drawn upwards by the Muscles; which (3.) is the more easily accomplish'd, because the Neck of the Thigh is not join'd to the Head transversely, or directly, but obliquely, and sideways, as appears very manifestly in a Skeleton. It is, therefore, no Wonder, if bad Accidents, or even Lameness, attend these Fractures.

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To these we may add, (4.) that a Fracture of the Neck of the Femur is difficult to be discover'd, and is generally mistaken for a Luxation, by the Head of the Femur slipping out of the Acetabulum; though *Paré*, and after him *Schenkins* and *Ruyseh*, and then many famous Surgeons and Physicians, demonstrated, that it is much more easy for the Head of the Thigh to be fractur'd, than for the Joint, guarded by strong Ligaments, to be push'd out of the Acetabulum, by any outward Violence; but the Antients, as well as those of the last Age, were so ignorant of this Observation, that, when it happen'd, they thought of nothing less than a Fracture, and us'd Machines proper for the reducing a Dislocation, which put the Patient to inexpressible Torment. However, since this Extension of the Thigh is esteem'd not only useless, but very cruel, it will not be amiss to recommend a safer Method of treating this Fracture; that is, a Method not so liable to be attended with violent Pains, Inflammations, and other Disorders.

When, therefore, after any considerable external Violence done to the Thigh, the Patient cannot stand on the affected Leg; when he feels acute Pains about the Joint; when that Leg is shorter than the other, loose, as it were, at the upper Part; and when the Foot may, by a very small Force, be turn'd either inwards or outwards; and during this Contortion you hear a Crashing, as of a broken Bone; you may safely conclude the Neck of the Thigh to be fractur'd. When these Symptoms appear, we must not extend the Leg violently, as the Practice was in Luxations, with Instruments invented for that Purpose, by *Scultetus*, and others; but rather, after having secur'd the Patient by a Napkin, or other proper Sling, between his Legs, extend the affected Limb by the Hands of robust Men, or a Napkin, or the Belt above-mention'd, till it becomes equal to the other, and the Neck is, if not perfectly, at least as well as it can be, rejoin'd with the Head inherent in the Acetabulum. Tho' it is almost impossible to prevent a Shortness of the Limb, and Lameness, yet some are cur'd; and I have found it very serviceable to apply strong Bandages, that the Neck may adhere to the Head, and, if possible, consolidate. For which End, the *Spica Inguinalis* is to be us'd; then put a long and large Piece of Linen Cloth, or a Napkin, between the Thighs, to keep the Body from subsiding, and, upon the Ancles and Knee, such Ligatures as fasten the Foot to the lower Part of the Bed, that it may not be drawn upwards: To this I add a Straw-case (see FASCIA). When you have done this, and put the Patient in a proper Posture, examine carefully, whether the Leg affected is equal to the sound Leg, or not; for, if it appears shorter, there is room to conjecture, that the Neck is again slipped out; and you must extend it again, after unbinding it, till it becomes proportionable. On the contrary, if no Disproportion appears, you may expect a complete Cure, provided the Patient keeps himself still, and observes a regular Diet. For the rest we must trust to Nature.

It would be worth while to invent a Machine for preserving the fractur'd Thigh in a due Extension, so that the injured Limb might be kept of an equal Length with the other for fourteen Days, or more, or indeed during the whole Time of the Cure; for then you might reasonably expect a more certain and successful Agglutination: And tho' *Hildanus*, as already quoted, has described an Instrument proper for the Extension of oblique Fractures; yet it is to be feared, this is something imperfect. In the mean time, since we are without a better, and the Method of Bandage, above directed, is not thought sufficient, it will not be amiss to apply that Machine of *Hildanus*; or, if this should not be in Readiness, besides the Straw-case, and the rest of the Apparatus thereto belonging, the large four-headed Bandage, described, also, by *Hildanus*, may be us'd; or two long Napkins between the Legs, near the Inguen, and fasten'd either to the Side or Tester of the Bed, with Nails or Rings, will keep the Body so firm, that it cannot descend; and, to prevent its ascending, put upon the Knee and Ancles a Ligature or Bandage, which must be fasten'd to the lower Part of the Bed, in order to keep the Leg in a proper Position, till the fractur'd Bone is reunited: And this Method is not only commodious, but extremely necessary in all Fractures of the Thigh, but more particularly in oblique ones. Lest, however, the Groin should be press'd too hard, and gall'd by the Strictness of these Bandages or Napkins, you may put under them some Compresses of fine Linen, or sometimes change them. For more particular Directions on this Head, see the Article FASCIA.

When a Fracture of the Thigh is complicated with a Wound, it is dangerous, and generally incurable; and, if it happens near the Joints, Death, for the most part, ensues; especially, when the large Blood-vessels are affected, which appears from a violent Hemorrhage. Nor is the Danger less, if the Wound be in the posterior Part of the Thigh, because it cannot be cleansed and somented without great Difficulty.

In treating these Fractures, apply the eighteen-headed Bandage, (*Tab. XXX. Fig. 4.*) which we have describ'd under the Article FASCIA. But, if the Part affected be violently contused, and Blood lies under the Skin, and in the Interstices

terfices of the Parts, you must, with Caution, make frequent and deep Incisions, to open a Passage for this extravasated Blood, which would soon putrefy. Afterwards wash the Part affected with Lime-water, mixt with a fourth Part of Spirit of Wine camphorated, or some other resolvent Liquor, till the Contusion is digested.

When an Hæmorrhage attends this sort of Fracture, and that not violent, nor near the Bone, you must fill the Wound with dry Lint well twisted, as in other Hæmorrhages, and lay several thick Compresses on it, applying proper Bandage: If the Hæmorrhage is something more violent, use astringent Liquors, especially rectify'd Spirit of Wine, which I have found very serviceable; if it is very violent, search diligently for the Artery, first applying the Tourniquet; and when you have found it, tie it up with a Thread. When this Fracture is caused by a Bullet, and attended with a copious Hæmorrhage, and great Commotion of the Bone, which is an Indication, that the crural Artery is lacerated, if the Surgeon has any Regard for the Patient's Life, he will amputate the Limb, and tie up the Artery, as the most probable Method of saving him; for the crural Artery will very rarely reunite; and, consequently, the Hæmorrhage cannot be stoppt without Amputation: Besides, in this Case, a Gangrene is much to be apprehended. But when you have stoppt the Bleeding, and cleansed the Wound, reduce the fractur'd Bones, lay on Compresses and Splints, then bind them tight with the eighteen-headed Bandage, and put the Limb into a Straw-case. Afterwards the Wound must be unbound every Day, and dress'd with digestive Ointment, Balsam, or vulnerary Essence, till it is healed.

FRACTURES OF THE PATELLA.

That we may the more easily discover and cure a Fracture of the Patella, it is necessary first to learn, in what Manner it adheres to the Thigh and Leg, by the Assistance of the Muscles and Tendons, and likewise how it ascends, together with the Muscles in an Extension of the Leg, and descends in an Inflexion; and, in violent Motions of the Body, sustains a great Force. Whenever the Patella, therefore, is fractur'd by a Fall, a Blow, or any external Violence, it is either longitudinally, transversely, or in several Directions; but the transverse Fracture is the most frequent. And as the longitudinal is most uncommon, so is it the most easily cured; for the Fragments generally remain in their proper Situation. On the contrary, the transverse Fracture, and that in many Directions, are very dangerous; for tho' the inferior Part, as having no Muscles, preserves its Situation, the superior, by reason of the strong Muscles annexed to it, is attracted upwards, and, of consequence, difficult to be restored.

It is very easy to discover a Fracture of the Patella; for the Fingers will shew, whether it is broken or not; and, if it is, whether longitudinally, transversely, or in several Directions; and whether the Fragments are divided, or still cohere. In this Search, be cautious of bending the Knee, because such Flexure is useless, painful, and very dangerous, as it separates the Fragments wider: But when a small Fragment of the Patella is attracted upwards, if the Patient is fat, the Discovery is not quite so easy. In general, this sort of Fracture of the Patella is not so dangerous as some others, because the Juice of the Bone, which produces the Callus, cannot so easily penetrate into the Joint, and make it rigid, as is common in other Fractures of this Bone, where the Knee is often render'd stiff and motionless.

A complete Cure of this Fracture, if we may believe experienced Surgeons, is scarce to be expected; for the Knee will generally become rigid, at least, the Motion of this Joint will be impair'd. Besides, the Juice of the Bone destin'd for the Formation of the Callus insinuates itself into the latent Sinus of the Joint; and the very Liquor, which, at other times, lubricates it, unites with the Joint, and grows so hard, that the Bones of the Leg and Thigh, like Boards glued together, are rigid, and, uniting with each other, become one Bone. Moreover, as in this kind of Fracture, especially the transverse, the Patient must continue a long while at Rest, even till the Bone is agglutinated, this conduces very much to the Inspissation of the Liquor designed for Lubrication: And it often happens, that the Tendon, which supports the Patella, and principally directs the Motion of the Joint, is affected by the same Violence, and, consequently, the Mobility of the Knee greatly impeded, if not entirely destroyed. Upon these Considerations, it is no Wonder, that those, who have once fractur'd the Patella, should be liable to frequent Falls, and new Fractures, as I have often seen; principally, because an incurable Debility, for the most part, follows a Contusion of that Tendon. I have, however, known Instances of transverse Fractures of the Patella so perfectly completed, that the Patients have never after found the least Inconvenience from them.

The Method of Cure is this: When the Fracture is direct, having laid the Patient on his Back, and extended the Leg, reduce the Fragments on each Side with your Hands; then apply the uniting Bandage, in the same manner, as directed under the Article FASCIA, for Wounds of the Belly or Forehead:

When it is transverse, or into several Pieces, or Directions, lay him in the same Posture; and after Extension depress the Fragments, which are attracted upwards, with your Hand, Thumb, or Fingers; and, having reduced them properly, strengthen them with a Plaister in the Form of a Half-moon, (see *Tab. XXX. Fig. 2.*) or perforated (*Fig. 3.*); then let the injured Limb be so placed and fixed, that it can neither be inflected nor disturbed. But this will appear more plainly by the Directions given under the Article FASCIA. Tho' some Surgeons have invented Machines for retaining these Fractures, one of which *Solingen* has recommended, and *Garengot* has described another; yet, to confess the Truth, they are so contriv'd, that they do not answer the End proposed. But lest the Patella, which is too often the Case, should be fractur'd again, you must forbid the Patient to walk, or set his Foot to the Ground, in less than nine or ten Weeks; for it seldom agglutinates before that time; and whoever does not keep himself quiet, is generally lame ever after. See *Purmannus's Obs.* on these Fractures.

FRACTURES OF THE BONES OF THE LEG.

As for Fractures of the Leg, and its two Bones, the Tibia and Fibula, no farther Directions are necessary, than those already given relative to Fractures of Bones in general; which are, that they be extended by the Hands or Slings, and accurately reduced, then bound up, and placed in a proper Position. I will only observe, that sometimes both Bones, sometimes one only is fractur'd; if this Accident happens to both, it seldom is in the same Place, but one a little above the other. If the Tibia only is fractur'd, it is easily discover'd, because it lies immediately under the Skin; but, if the Fibula only is fractur'd, the Discovery is more difficult, as it is concealed in the Flesh or Muscles. Besides, this gives very little Pain, and scarcely disqualifies the Patient for Walking. However, it may be known, by taking hold of the Leg under the Sura with one Hand, and with the other moving the Foot; for, by this Motion, the Hand, that comprehends the Leg, will distinguish, whether it is fractur'd or not, and in what Part. But if a Fracture of the Tibia, which often happens, is attended with an external Wound, the Cure must be perform'd in the following Manner: In the first Place, the Wounds and fractur'd Bones should be cleans'd from the Sordes, loose Fragments, and all foreign Matter; then, after Extension, be reduc'd; afterwards the Hæmorrhage, if there is any, must be stoppt; and then all must be bound firmly with the eighteen-headed Bandage, (see *Tab. XXX. Fig. 4.*) which has been fully explain'd under the Article FASCIA. If any prominent Fragments hinder the Reduction, they must be remov'd with a sharp Forceps, or fine Saw; and afterwards the Fracture must be reduc'd, and bound up: Next, place the Limb in a Straw-case, or Brass-case, suited to contain the broken Tibia (see *Tab. XXX. Fig. 9.*). Renew this Bandage every Day, till the Wound is heal'd. Sometimes little Pieces of the Bones, being loose, will come away by Suppuration; these must be extracted, and then proceed as before.

Petit's famous Machine for Fractures of the Leg is represented in *Tab. XXX. Fig. 11.* and *12.* and describ'd under the Explication of that Table.

FRACTURES OF THE BONES OF THE FOOT.

The Bones of the Foot, that is, the Tarsus, Metatarsus, and Toes, are as subject to Fractures as those of the Hands; but from the violent Contusion of the Nerves, Tendons, Ligaments, and Membranes, these Fractures are generally accompanied with Wounds, and very dangerous Symptoms; they are to be cur'd almost in the same manner, only there is a Difference in the Bandage, which see under the Article FASCIA. But here we may observe, that Fractures of the Foot, as well as of the Hand, and Leg near the Ankle, especially when the Malleolus recedes from the principal Bone, seldom admit of so complete a Cure, as to leave the Limb free from Stiffness, an Ulcer, Caries, or incurable Fistula. These last Disorders are seldom remedied without Amputation; nor does that always preserve the Patient's Life. In these Fractures, therefore, it is advisable to give timely Notice of the Danger to the Patient, or his Friends, lest his unhappy Condition should be unjustly attributed to the Surgeon, which is often done. But, for a more exact Acquaintance with Fractures of the Bones, I would recommend *Petit's* Treatise on the Diseases of the Bones. *Mouru*, also, and *Boerhaave*, have wrote excellently on the Bones.

OF BONES BROKEN BY ACUTE INSTRUMENTS, WHICH MAY BE CALLED WOUNDS OF THE BONES.

Thus far have we been treating of Fractures of the Bones, proceeding from blunt Instruments; it now remains, that we treat of such as are caus'd by sharp ones, as Darts and Swords, which may be properly termin'd Wounds of the Bones; and of these few Authors have treated separately. Not only the soft Parts, but, also, the hard Bones are divided by these Weapons; sometimes slightly, sometimes considerably, and sometimes the Solution is equal to a Fracture. These Wounds must necessarily

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asily be attended with Variety of bad Symptoms, according to the Size and Depth of the Wound, and the Force it was inflicted with; and as the Patient receives it, either in the Head, Nose, Jaw, Fingers, Hand, Arm, Shoulder, Leg, or Thigh. These are easily discover'd; but, as they require a different Method of Cure from other Fractures, I thought it not improper here to give some Directions with regard to the Manner of treating them.

Before we proceed, it must be observ'd, that slight Wounds, which do not penetrate deep into the Bone, are seldom dangerous, especially if we treat them regularly, that is, if we cover the affected Bone, as much as possible, with its Integuments, to keep out the Air, and avoid oily fat Medicines as very noxious. When they penetrate deep, or entirely divide the Bone, and affect its neighbouring Parts, especially those which are immediately necessary to Life, as in the Head, Neck, Spina Dorsi, and Breast, or when they wound or separate the larger Veins, Arteries, Nerves, and Tendons, of the Arms or Legs, the Danger is much greater, the Cure more difficult, and Death frequently ensues.

In the Cure of Fractures by acute Weapons, *Petit*, otherwise a very good Surgeon, in his Book on Diseases of the Bones, inadvertently recommends joining the Lips of the Wound, and the uniting Bandage, for longitudinal Fractures of this Kind; for very oblique, or wholly transverse ones, Suture, and the eighteen-headed Bandage. But, as this Method often fails, and may misguide young Beginners, I will endeavour to set it in a clearer Light. In the first Kind, I am almost of his Opinion, particularly when the Wounds are inconsiderable, as when the Head is not entirely nor deeply penetrated, nor contus'd, nor the Brain affected. But, when the contrary happens, we must proceed with more Caution; for the Wound must be kept open with Lint, and cleans'd; and, after cleansing, be heal'd with Balsams; for dangerous Symptoms, and often Death, are the Consequence of too speedy a Closure. I do not entirely agree with him in the Management of slight oblique or transverse Wounds; for I am so far from thinking, that Suture, and the Bandage of eighteen Heads, are of general Use, that they appear to me to be seldom necessary; for I have myself cur'd, and seen others cure, many of these Wounds without them. For Example, slight oblique Wounds of the Head, Forehead, or Cranium, may be united by a Plaster and Bandage, without the Suture with Needle and Thread, which *Petit* recommends. But they may be generally cur'd by agglutinative Powders, Balsams, and Plaisters, whether they happen in the Head, Jaw, Clavicle, Scapula, Shoulder, Arm, Hand, Thigh, Leg, or Foot. But when Pieces hang down in such a manner, that they cannot be united without, the Suture is absolutely necessary.

WOUNDS OF THE FINGER-BONES.

When the Finger-bones have been wounded and separated by a Sword, so as to hang only by the Skin and Flesh, I have cur'd them in the following Manner, without the Suture, and eighteen-headed Bandage: I join'd the separated Portions accurately, and roll'd a Slip of Plaster round, to keep the Bones in that Situation; then applied a Compress dipt in Spirit of Wine, over which I laid some small Splints of Pastebord, to secure them in their proper Position; then I bound up the Whole firmly, with a long narrow Roller, and suspended the Hand in a Sling about the Neck. I left it thus for several Days, and only prescrib'd Rest, and a proper Diet, to the Patient. At length, I loos'd the Bandage carefully, and gently remov'd the Compress, but not the Plaster; and, after cleansing the Wound as well as I could, dropt in some vulnerary Essence; and, applying a fresh Compress dipt in Spirit of Wine, bound it up again, as before: Then I left it for several Days more. Afterwards I dress'd it in the same manner, about every third Day, till, in about a Month, it was perfectly cur'd.

WOUNDS OF THE ARM AND LEG-BONES.

If either of the Bones of the Cubit is divided, which is usually the Ulna, because that is most expos'd in fighting, the Suture, and eighteen-headed Bandage, are superfluous. In this Case, I first cleanse the Wound, then put in some vulnerary Essence or Balsam, and Lint dipt in the same; after this, I apply a Plaster, Compress, and Pastebord-splint, moisten'd with Spirit of Wine; these I apply round a great Part of the Cubit, near the Wound, that, when they are dry, they may suit themselves the better to the Shape of the Part; after this, I apply a long Roller, and suspend the Arm in a Sling about the Neck. In this manner I dress the Wound every other Day, or, if the Discharge requires it, every Day. These Fractures consolidate without any Suture, which I rather look upon as prejudicial. When either of the Bones of the Leg are cut, I make use of the eighteen-headed Bandage, as in other Fractures of the Leg or Thigh, but scarce ever the Suture, because it is very seldom necessary in these Wounds of the Tibia only, as that is cover'd with scarce any thing but Skin; nor is it requi-

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site [for the Fibula, unless some of the great Muscles are divided. Sutures must be avoided as much as possible; for they are generally attended with Inflammations, Pains, Convulsions, and other hazardous Symptoms; and I always declare against them, unless a Wound cannot possibly be heal'd without them.

WOUNDS IN THE ARM AND THIGH-BONE.

If the Thigh-bone is cut with a Sword, for the better conjoining and securing these strong Muscles, a Suture, as in other Wounds, may be serviceable. The Wound must be manag'd in the Manner directed under the Article *VULNUS*, applying the eighteen-headed Bandage, and the Straw-case. So, if the Bones of the Humerus, or Arm, be divided with a Sword, the Suture may be proper, for the above-mention'd Reasons, and not the eighteen-headed Bandage, but a narrow long one, as in other Fractures of the Arm. Suspend the Arm in a Sling about the Neck; for this will unite the Muscles better, and complete the Cure sooner and more easily.

If both the Bones of the Cubit, or Leg, are divided in such a manner, that the Limb hangs only by Skin, Flesh, and Blood-vessels, (which is common without an entire Amputation of it) the Suture, and eighteen-headed Bandage, are convenient. But the Suture cannot be of the least Service, when the Part hangs by the Skin alone, its Nerves and Blood-vessels being wholly separated, particularly if it be a large Limb, as the Leg or Arm, that is injur'd. In this Case, therefore, I would advise cutting off the Limb, stopping the Hæmorrhage, as in other Amputations, and dressing it in the same manner.

If the lower Jaw is so cut with a Sword, that the Pieces recede much from each other, and cannot be retain'd without the Suture, you may use it, adding a Balsam, Plaster, Compress, and proper Bandage. If the Clavicle, or Acromium Scapulæ, meet with the same Accident, you must proceed in almost the same Manner as we directed for a Fracture of these Bones, gently unbinding the Bandage, and dressing the Wound every Day, or every other Day, till the Cure is completed. The Hæmorrhage, which, in these Wounds, is commonly very profuse, must be stop'd by Compresses, Astringents, or a Ligature of the Arteries, as the Case shall require.

FRÆNATOR is a Name for some Muscles, which serve the Head in different Motions upon the first and second Vertebrae of the Neck. They were discover'd by Mr. *Dupré*, a Surgeon of *Paris*, in the *Hotel-dieu*; in *French* they are call'd *Rengorgeurs*.

FRÆNULUM, FRÆNUM. See *FRENUM*.

FRAGA. Strawberries. See *FRAGARIA*.

FRAGARIA.

The Characters are;

The Root is fibrous and perennial; the Leaves stand three on a Foot-stalk, and are veit'd, and radiated; the Stalks trail on the Ground. The Calyx is monophyllous, and expanded, like a Star, into ten equal Segments. The Flower is rosaceous, pentapetalous, furnish'd with many Stamina, standing on the Margin of the Base of the Ovary. The Fruit is hemispherical, pulposus, and containing a Multitude of small external Seeds, which are furnish'd with an erect Tube.

Boerhaave mentions six Species of this Plant; which are,

1. *Fragaria*; vulgaris. *C. P. Pin.* 326. *Tournefort. Inst.* 295. *Elem. Bot.* 245. *Boerb. Ind. A.* 41. *Hist. Oxon.* 2. 186. *Phyt. Brit.* 42. *Dill. Cat. Giff.* 50. *Rupp. Flor. Jen.* 86. *Buxb.* 116. *Park. Theat.* 758. *Fragaria.* *Offic. Ger.* 844. *Emac.* 997. *Rail Hist.* 1. 609. *Synop.* 3. 254. *Fragaria vulgaris, five Trifolium frugiferum.* *Merc. Bot.* 1. 36. *Fragaria ferens Fraga alba et rubra.* *J. B.* 2. 395. *STRAW-BERRY.*

Strawberries have small redish Roots, full of Fibres, from which spring many creeping slender Threads, which take Root, and propagate. The Leaves grow three together, upon one Foot-stalk, folded together at their first springing up, and are full of Veins, of an oval Figure, deeply serrated about the Edges. The Flowers spring from the Root, on long Foot-stalks, four or five together, each of five small, round, white Leaves, with several yellow Stamina in the Middle; and are follow'd by small Fruit, of a round conical Shape, of a redish Colour, of a pleasant, tart, grateful Taste, and an agreeable Smell, having the Outside beset with a great many very small green Seeds. They grow in the Woods, flowering in *May*, and the Fruit is ripe in *June*. The Leaves and Fruit are used.

Strawberries refrigerate and moisten, resist Poison, agree with bilious and thirsty Persons; but, eaten plentifully, affect the Head, and inebriate, if we may believe *Cæsalpinus*; but we, says *Ray*, who have several times eaten large Quantities of Strawberries, never found any such Effects from them: They have, indeed, a vinous Taste, without an Affusion of Wine, but a faint one: But the Reason why we should abstain from too freely eating them is, because they are subject to putrefy in the Stomach: Therefore they should not be eaten alone, but with Wine and Sugar, as is common with us, to correct their Coldness

Coldness and Humidity. In some Parts of *France*, as we are told by *Brayer*, they eat them with Cream [as they do everywhere in *England*]; which, he says, has the same Effect upon them as Wine; but, says *Ray*, I am of another Opinion. The distil'd Water of Strawberries is said to comfort the Heart, to amend the Disorders of the Thorax, to purge the Blood, and, being us'd in Gargarisms, to heal the Ulcers of the Mouth, and the Quinsy, to break the Stone, with other good Effects, if we may believe *Tragus*.

They who, from a hot Distemperature, are affected with Pustules in the Face, or a dry and pruriginous Scabies in all or some Part of their Body, are advis'd to take every Day about an Ounce of the Water, and the same would be proper for those who are molested with the Stone; for it refrigerates the Kidneys, and cleanses them of Gravel. For the Stone: Take ripe Strawberries, and put them into a Phial full of the purest boiling-hot Water; after about forty Hours strain it, and put fresh Berries into the same Water boiling-hot, and so leave it very well cover'd and secur'd, that nothing may evaporate; squeeze the first Strawberries which remain after the Straining, thro' a Linen Cloth, and keep the express'd Liquor by itself. When you have a mind to use it, take a Spoonful in a Morning, three or four times in a Month, mix'd with Powder of Sugar-candy: This is a grateful, approv'd, and most efficacious Remedy, and was recommended to *Gesner* by those who were afflicted with the Stone for upwards of twenty Years, after innumerable Medicines which had been prescribed for them by different Physicians. *J. B.*

The Herb is a Refrigerant, and moderately drying: It has a bitter Taste, as well as its Root, with a manifest Astringency: It is also diuretic, and of frequent Use in the Jaundice, as also in Gargarisms, Baths, Cataplasms, and other Ways, for Hemorrhages and the Dysentery, for cleansing foul Ulcers, and for repressing Catarrhs and Distillations.

The *Decoctum cum toto*, as Physicians love to express themselves, that is, the Decoction of the entire Plant, with its Leaves, Roots, and Stalks, is administer'd with very good Success in the Jaundice, either separately, or mix'd with other Things appropriated to that Distemper. *Rulandus* us'd to prescribe it in the following Form, after purging with Extract of *Ejula*: Take of the Herb *Fragaria*, three Handfuls; of Raisins ston'd, three Drams: Boil them together in a sufficient Quantity of Spring-water, and let the Patient drink it. I have seen, says *C. Hoffman*, after plentiful eating of Strawberries, many of their Particles in an Urinal, so as to cause a Suspicion of a Colliquation of the Kidneys. Thus, says *Ray*, is something rare and incredible. The same Author, *Hoffman*, assures us, that *Fragaria* is of excellent Service in colliquative Fevers, for deriving the Water insus'd into the Abdomen, and there giving an Appearance of a Dropsy, from thence to the Kidneys.

I am assur'd by an unknown Author, says *Sim. Pauli*, that *Fragaria*, boiled in red Wine, and apply'd as a Cataplasm to the Pubes, and Peeten, puts a Stop to the *Fluor albus*; and I have found the same myself, he says, to be very effectual in nocturnal Pollutions, and a Gonorrhœa not attended with Virulence.

Hildanus, *Cent. 5. Obs. 38.* tells us of a Woman, who, after eating Strawberries, fasting, was immediately seiz'd with terrible Symptoms, as a Fainting, Vertigo, Tumefaction of the Hypochondria, and a Pain in the Stomach: But we must here observe, that this Woman eat the Strawberries crude, and unwashed, and without Wine or Sugar. I am really of Opinion, that this Fruit was poison'd by the Urine, Saliva, or Breath, of some Serpents or Toads, which are extremely delighted with Strawberries; or, perhaps, as *Dr. Robinson* conjectures, some Insect had infected the same with a noxious and venomous Juice.

Some have fallen into a fainting Fit from the Smell alone of Strawberries, as did the President of the Hospital at *Esslingen*. A Maid of *Austria* became epileptic, on eating of Strawberries; and, from that time, was every Year subject to a Paroxysm at the Season of their Flowering. *Ray*, *Hist. Plant.*

Fragaria has the same Virtues as Cinquefoil: The Decoction of the Herb, and the immature Fruit, are strengthening and astringent: The Fruit is emollient, nutritive, relaxing, cooling, diuretic, aperitive, and corrects Acrimony; hence it becomes proper in the highest burning Fevers, and under the greatest Degree of an Inflammation, when the Thirst is extremely urgent. The Fruit eaten cures a Gonorrhœa: A very good Drink in Fevers is thus prepar'd: Take of the Juices of Strawberries and Lemons, and of Spring-water, an equal Quantity; of Sugar, enough to render it grateful: Mix them together. The Pulp, apply'd in a Cataplasm, is good for all external Inflammations; and I have frequently experienc'd its Virtue in a Relaxation of the Vessels of the Uterus. In tertian and quartan Fevers, it does the Service of the *Peruvian Bark*: It is, also, a Lithontriptic. Take the ripe Berries, and put them in Water; then shake the Vessel, and the Seeds will fall to the Bottom: These dry'd, and taken

to the Weight of one or two Drams in White-wine, in the Morning, fasting, are an excellent and usual Remedy with Lithotomists, to prevent the Regeneration of the Stone in those who have been cut for the same.

The Berries gather'd in watry and marshy Places, though larger, are of less Virtue than the Mountain Strawberries, as *Gesner* observes. This useful Plant has one Inconvenience, in that it has always Toads conceal'd under it; which, as we are assur'd by Authors, have render'd it mortal to many who have eaten of the Fruit; for which Reason, some will never eat Strawberries before they are wash'd. In *Italy* they bruise the Pulp in Rose-water, and make it into a Conserve with Juice of Citrons, for the Purposes before-mention'd. *Hist. Plant.* ascrib'd to *Boerhaave*.

2. *Fragaria*; fructu albo. *C. B. P.* COMMON STRAWBERRY with white Fruit.

3. *Fragaria*; fructu parvi pruni magnitudine. *C. B. P.* 227. *M. H.* 2. 186. THE HAUTOBOY STRAWBERRY.

4. *Fragaria*; fructu rotundo, suavissimo; flore duplici. *H. R. Par.* 72.

5. *Fragaria*; Virginiana; fructu coccineo. *M. H.* 2. 186. VIRGINIAN STRAWBERRY, with scarlet Fruit.

6. *Fragaria*; crassis; rugosis, foliis; flore & semine carent. *Boerb. Ind. alt. Plant. Vol. 1. p. 236.*

FRAGARIA STERILIS.

The Characters are;

It has the Appearance of the *Fragaria*: The Stalks are without Tendrils: The Calyx, Flower, and Fruit, are those of Cinquefoil. *Boerb. Ind. alt. Part 1. p. 42.*

Boerhaave mentions eight Species of this Plant; which are,

1. *Fragaria*; sterilis; Alpina; coalescens. *H. R. Par. Pentaphylloides, Fragariae folio.* *Bott. Monsp. App. 309.*

2. *Fragaria*; sterilis. *C. B. Pin. 327. Raii Hist. 1. 611. Synop. 3. 254. Tourn. Inst. 296. Elem. Bot. 246. Boerb. Ind. A. 42. Dillen. Cat. Giff. 60. Buxb. 116. Fragarioides, Offic. Fragaria minime vesca, Parkinson Theat. 758. Fragaria minime vesca, five sterilis. Merc. Bot. 1. 36. Phyt. Brit. 43. Mer. Pin. 39. Ger. Emac. 998. Fragaria, non frugifera, vel non vesca. J. B. 2. 395. Chab. 165. Comaroides. Pent. Anth. 290. Pentaphylloides foliis ternis Quinquefolii albi effigie. Herim. Flor. 2. 7. BARREN STRAWBERRY. Dale, p. 160.*

The Virtues are suppos'd to be much the same as those of Cinquefoil.

FRAGAROIDES. See FRAGARIA STERILIS.

FRAGMEN, FRAGMENTUM, signifies either the same as *Fractura*, or else means some Particles separated from the main Substance of a Body: Thus, the Fragments of the Stone are Sand and Gravel. *Castellus.*

FRAMBOESIA. The Raspberry. See RUBUS IDÆUS.

FRANGULA. See ALNUS.

FRAXINELLA.

The Characters are;

The Root is perennial: The Leaves are pennated, like those of the Ash: The Calyx is monophyllous, and divided into five long, slender Segments: The Flower is pentapetalous and anomalous, four of the Petals turning upwards, and one downwards, so as to make it appear bilabiated: It is furnished with eight, nine, or ten crooked Stamina: The Fruit consists of many little Pods, incurvated like a Ram's Horn, which burst in two Places, and discharge great black Seeds. *Boerb. Ind. alt. Part. 1. p. 299.*

Boerhaave mentions three Species of this Plant; which are,

1. *Fraxinella*. *Ger. 1056. Emac. 1245. Tourn. Inst. 430. Elem. Bot. 341. Boerb. Ind. A. 299. Hist. Oxon. 3. 456. Dictamnus albus, Fraxinella. Offic. Dictamnus albus vulgo, five Fraxinella. C. B. Pin. 222. Fraxinella vulgaris. Park. Theat. 417. Fraxinella flore purpureo & albo, Park. Theat. 333. Fraxinella Officinis Dictamnus, J. B. 3. 494. Buxb. 217. Raii Hist. 1. 698. Fraxinella, Dictamnus albus. Chab. Fraxinella & Dictamnus albus Officinarius. Rupp. Flor. Jen. 235. BASTARD DITTANY. Dale, p. 177.*

The Roots of this Dittany are pretty large, white, and spreading, sending forth long pinnated Leaves, pretty much resembling the Leaves of the Ash-tree; whence it takes the Name *Fraxinella*: The Stalks arise to be about two Foot high, having smaller Leaves growing alternately on them: The Flowers grow at the Top of the Stalks, in Spikes, of an irregular Shape, consisting of five pretty long and narrow Leaves, set on like the Flowers of Violets; in some Plants of a pale-red Colour, and, in others, of a white, with darker Veins or Stripes, and several crooked Stamina coming out of the Middle, and turning upward: The Seed is black, roundish, and shining, growing in long horned Seed-vessels. The whole Plant has a strong somewhat resinous Scent. It grows wild in several Places of *Germany* and *France*; but is only planted with us in Gardens, and flowers in *June* and *July*.

The Root is esteem'd a Cardiac and Alexipharmic, and serviceable against pestilential Contagions, if it be taken any way. *Matthiæus* affirms it to be good against Poisons, and the Bites

of venomous Animals. Drank to the Weight of a Dram, it kills Worms in the Intestines. It is prescrib'd in cold Diseases of the Uterus; for it provokes Urine and the Menses, promotes Delivery, and brings away the Secundines, and the dead Child, if it be used either in a Pessary, or in a Suffumigation with Pen-y-royal, or taken to the Quantity of two Drams in pure Wine; it is, also, good for the Gripes of the Belly, and to cleanse the Kidneys of Gravel, and is a useful Ingredient in Potions for internal Wounds. The Women in Rome use the distill'd Water as a Cosmetic, and for Inflammations of the Eyes; which is a plain Argument, says *C. Hoffman*, that it cannot be used as a Succedaneum to the true Dittany; but, since it is bitter and acrimonious, says *Ray*, I see no Reason why it should not be effectual for the same Purposes as this Plant. The Pods and Flowers excite an Itching by their Contact, and in hot Countries exulcerate the Skin: The Plant varies with respect to its Flower, which is sometimes white. *Raii Hist. Plant.*

The whole Plant has a most fragrant Smell, abounding with Oil: The Flowers and Stalks are aromatic, balsamic, and sweet; whence it is reckon'd among balsamic and vulnerary Herbs. This Species may be had in all the Shops: It has a balsamic Smell, and is very sweet and fragrant in all its Parts: The Bark is much commended for facilitating Delivery, and purging the Lochia; and, on account of its intense Bitterness, is prescrib'd against Worms: The Seeds, Leaves, and Roots, are used in the Shops; and the Plant, for want of the true Dittany, supplies its Place in the *Theriaca Andromachi*: The Conserve of the Flowers, by its astringent Virtue, corroborates the Stomach and Intestines. *Hist. Plant.* ascrib'd to *Boerhaave*.

2. Fraxinella; niveo flore. *Clus. H.* 100.

3. Fraxinella; purpurea; major; multiflora. *H. R. Par.*
GREAT PURPLE FRAXINELLA, WITH MANY FLOWERS. *Boerb. Ind. alt. Plant. Vol. 1. p. 229.*

FRAXINUS.

The Characters are;

The Leaves are pennated, and grow to a common Rib, whose Top ends in an odd Leaf: The Flower is Male, apetalous, and consists of Stamina, which are adorn'd with a double Apex: The Ovary is oblong, oval, flattish, furnish'd with a bifid Tube; and ripens into a flat membranaceous Fruit, resembling a Tongue, and containing a Seed of the same Figure.

Boerhaave mentions six Species of this Plant; which are,

1. Fraxinus; excelsior; flore petaloide; mas. *C. B. P.* 416. *Tourn. Inst.* 577. *Elem. Bot.* 448. *Boerb. Ind. A.* 2. 171. *Dill. Cat. Giff.* 59. *Rup. Flor. Jen.* 269. *Buxb.* 117. *Jonsf. Dendr.* 290. *Fraxinus. Offic. Ger.* 1289. *Emac.* 1472. *Raii Synop.* 3. 469. *Mer. Pin.* 39. *Chab. 62.* *Fraxinus Ornus.* *Mont. Ind.* 43. *Fraxinus vulgaris.* *Park. Theat.* 1419. *Merc. Bot.* 1. 36. *Phyt. Brit.* 43. *Fraxinus vulgarior.* *J. B. 2.* 173. *Raii Hist.* 2. 1702. COMMON ASH-TREE. *Dale, p. 332.*

The Ash-tree grows to a great Height and Bigness, with a strait Body, cover'd with a whitish or ash-colour'd Bark, which gives it its Name, as a Tree, whose Body is of the Colour of Ashes. It grows with its Branches pretty upright and smooth. The Leaves are of a dark-green Colour, pinnated, the Pinnæ growing opposite; and are oval and sharp-pointed, with an odd one at the End. The Flowers grow in small staminate Bunches, coming out early in the Spring, before the Leaves. The Seed is small, long, flat, and narrow, growing in thin membranaceous Husks, several growing together in Bunches. The Ash-tree grows frequently in Woods and Hedges, and the Seed is ripe in September and October. The Bark, Leaves, and Seed, are used.

The Leaves of this Tree, by the chymical Analysis, yield a great many acid Liquors, a little urinous Spirit, no concentered volatile Salt, a great deal of Oil and Earth, and a moderate Quantity of fixed Salt; by which the natural Salt of this Plant seems to resemble that call'd by *Angelus Sala*, *Oxyfal diaphoreticum*; but in the Ash it is join'd with a great deal of Sulphur and Earth: Thus it is no Wonder, if it should be aperitive, diuretic, and sudorific. *Tragus* says, its distill'd Water cures the Jaundice and Stone; and the Decoction of its Leaves in Wine removes Obstructions of the Liver and Spleen. *Simon Paulli* commends the Use of the Salt of the Ash, taken in *Carduus Benedictus* Water, mixt with a little Syrup of Pomegranates or Raspberries, in the Small-pox and Measles. *Cæsalpinus* relates, that, in his Time, they used the Wood of the Ash in Decoctions, after the Manner of that of Guaiacum: *Lobel* says, also, that it is also good for the Venereal Disease. The Ashes of its Bark make a good Caustic. The Ashes of the Bark of the Root, says *Lobel*, ty'd in a Knot, and moisten'd, and then apply'd, supply the Place of a potential Caustery; and the Aperture thus made is kept open by introducing an Ivy-leaf.

He says, that the Perfume of its Leaves, Bark, or Seed, cures Deafness: It is certainly resolving; and the very Water

which drops out of a fresh Branch, that has the other End of it set on Fire, has the same Virtue: Syringe it into the Ear; and afterwards stop it with some Cotton dipt in the same Water: The Bark of the Root is prescrib'd for the Dropsy, Rheumatism, Sciatica, and those Diseases which require to have the superfluous Serofities voided: This Bark is an Ingredient in the Potions, Broths, and Apozems prescrib'd for the Green Sickness: They add to these Remedies the Tincture of Steel; or chalybeated soluble Tartar. *Martyn's Tournefort.*

The Seeds of the Fraxinus, bruised, and drank in Wine, provoke Urine, says *Hippocrates*. Feed a Pig, says *Galen*, with the Bark of Ash, boiled in Wine for three Days, and kill it on the fourth, and you shall find it without a Spleen. The Bark and Wood are drying, attenuating, and are thought to have a specific Virtue against Hardness of the Spleen; whence it is said, that continual drinking out of a Cup made of its Wood extenuates that Part; for which Purpose some give the Decoction of the Bark, and others use the same, instead of Guaiacum, with good Success. *Dr. Tancr. Robinson* observed the middle Bark or Rind of the Ash frequently prescribed in foreign Countries for intermittent Fevers; and says, that he has heard the same has been successfully practised in England. The Juice of the Leaves, and of the tender Buds, drank in a small Quantity every Morning, are said to be effectual in the Dropsy. The Salt of the Ash-tree, mix'd with Diuretics, provokes Sweat, as does also the Decoction of the Bark. The Seed called *Lingua Avis*, Bird's Tongue, potently heats and dries, and is good for hepatic Disorders, Pleurifies, and the Stone. The modern Chymists, and especially *Glauber*, mightily extol the same for breaking the Stone in the Kidneys and Bladder. Eaten with Pistachios, Pine-nuts, and Sugar, it imparts Venereal Abilities. The Powder of the Seed dry'd, after perfect Maturity, is an excellent Remedy, not only against the Stone, but the Jaundice and Dropsy, as we are assur'd by a famous Physician, *Dr. Boules*. A Dram of the Seeds, taken in Wine, as *Pliny* says, cures the Dropsy, and extenuates those who are excessively fat and corpulent: The *Arabians*, also, mightily commend it. In England, the green Seeds, or rather Fruit of the Ash-tree, gather'd before Maturity, are pickled with Salt and Vinegar, and serve for Sawce. *Raii Hist. Plant.*

2. Fraxinus; excelsior; frugifera; scemina.

3. Fraxinus; humilior; five altera Theophrasti; minore & tenuiore, folio. *C. B. P.* 416.

4. Fraxinus; folio rotundiore. *C. B. P.* 416. *J. B. 2.* 174. *Chab. 62.* *Raii Hist.* 2. 1703. *Jonsf. Dendr.* 291. *Boerb. Ind. A.* 2. 172. *Mammifera Arbor. Offic. Fraxinus.* *Tourn. Inst.* 577. *Elem. Bot.* 448. *Alepenfis.* *Herin. Cat. Hort. Lugd. Bat.* 261. THE ROUND-LEAV'D ASH. *Dale, p. 332.*

The Leaves resemble those of the Pistachio, are roundish, less than those of the common Ash-tree, serrated at the Edges, and often have the interior Half, towards the Bottom of the Rib, shorter than the exterior; which may be also, sometimes, observ'd in the Pistachio and Turpentine-tree.

For the medicinal Virtues of this Tree, see MANNA.

5. Fraxinus; Virginiana; caudice penitus nodoso.

6. Fraxinus; major; foliis rotundioribus; splendentibus; undulatis. An Fraxinus, Alepenfis. *H. L.?* *Boerb. Ind. A. Plant. Vol. 2. p. 171.*

FRENA. A Name for the Sockets of the Teeth. *Castellus.*

FRENANS Medicamentum, a bridling Medicine, is one which moderates and restrains the Rage of the redundant and disturb'd Humours. *Castellus.*

FRESUM. An Adjective frequently apply'd to Pulse, importing, being hull'd, skin'd, or peel'd.

FRICIUM, vel Fricatorium Medicamentum, is a Medicine appointed for the Friction or Rubbing of the soft external Superficies of the Body.

This Medicine, with respect to its Consistence, is of three Kinds, dry, soft, liquid: The first is administer'd in dry Friction, in form of Fumes, or by way of Suffumigation: The two last serve for humid Friction.

Their Usefulness, so highly celebrated by the Antients, and still much regarded in the present Times, cannot escape the Observation of every one, who knows how greatly Friction contributes not only to the Conveyance of Remedies within the Superficies, but to their Action and Efficacy after Introduction. *Gaubius de Methodo concinnandi Formulas.*

FRICTIO, Friction, or Rubbing. A Species of Gymnastica; for which see the Article FRICA.

FRIGIDARIUM. A Vessel in the Baths of the Antients, appointed for holding cold Water, the Caldarium and Tepidarium, the other two Vessels containing hot and tepid Water. *Castellus.*

FRINGILLA, the Chaffinch; a small Bird well known: *Lemery* says, it contains much volatile Salt and Oil, and is thought to be good for the Epilepsy.

FRITTA. A technical Word belonging to the Art of Glass-making, and signifying the Mass of Salt and Ashes con-

erected in the Sand by Cold. By the Antients it was called *Hammonitrum*, or, perhaps more properly, *Ammonitrum*. *Plin. Lib. 36. Cap. 26.*

FRITILLARIA, the Fritillary; or chequer'd Tulp.

The Characters are ;

The Flower is like a Lily; Bell-shap'd, hexapetalous, pendulous, naked, and generally chequer'd, furnish'd with six Stamina, and containing the Ovary : The Ovary is furnish'd with a trifid Tube, or Pointal, the triple Cavity extending to the Cavity of the Ovary : This Pointal becomes an oblong Fruit, full of flat Seeds, dispos'd in a double Row : The Root consists of two carnos Knobs, from the Middle of which arises the Stalk. *Boerhaave, Index alter, Pars 2. p. 139.*

The Flower of the Fritillaria, as *Paul. Renalmus* says, is not only good in burning Fevers, but to allay Thirst : Of its Juice is made an excellent Ointment for carcinomatous Ulcers. There is, also, a considerable Virtue in the Flower for strengthening the Heart and Brain, and correcting the Malignity of the Meconium. The Water, rightly distil'd, helps Inflammations of the Eyes. *Raii Hist. Plant.*

Boerhaave enumerates twenty-eight Species of this Plant.

FRIXUS, *fritus*, *φρυκτός*, *εφρυόμενος*, *τηγόμενος*, *τηγανισμένος*, *τυσανίδος*, fried, is apply'd to things dress'd or prepar'd in a Frying-pan ; hence *Panis teganites* (*τηγανίτης*) is Bread bak'd in a Frying-pan. *Galen, de Al. Fac.* tells us, that all fry'd Meats afford a dry Aliment, and void of Flatulences. *Fritta vel frixa Refina*, call'd by the Greeks, simply, *φρυκή*, (*Phryete*) signifies *Colophony*, or black Rosin ; and distinguishes it from liquid or humid Rosin, which they call *ύγρη* (*Hygra*). It takes the Name *Phryete*, from its being fry'd or burnt in the Manner describ'd by *Dioscorides*, *Lib. 1. Cap. 93.*

FRONDIPORA. A Name for the *Eschara marina*.

FRONDOSITAS, Frondosity ; signifies Leafiness, Fulness of Leaves, or Aptness to bear Leaves.

FRONDOSUS, frondous ; is full of, or apt to bear Leaves. *Idem.*

FRONS, *μέτωπον*, the Forehead, is the fore Part of the Head, situate above the Eyes, bare, or destitute of Hair, and reaching to the Temples. *Castellus.* See **CAPUT**.

FRONTALE, *μετωπιακόν*, is a Name for any external Medicine or Topic apply'd to the Forehead : In particular it means a refrigerating and hypnotic Remedy, prepar'd of cold Cephalics bruise'd and ty'd up in a Linen Bag, four or five Fingers in Breadth : It is, also, put for **ANACOLLEMA**, which see.

FRONTALIS. The Name of a Muscle belonging to the Forehead. See **CAPUT**.

FRONTATUS, frontated, is a Term us'd by Botanists, relating to the Leaf of a Flower, which grows broader and broader, till, perhaps, terminated in a right Line ; and is spoken in Opposition to *cuspidated* ; that is, when the Leaves of a Flower end in a Point. *Miller's Dict. Vol. 1.*

FRONTO, from *Frons*, is one who has a large and ample Forehead. *Castellus.*

FRUCTUS, *καρπός*, Fruit, is the Production of a Tree or Plant for the Propagation or Multiplication of its Kind ; in which Sense, Fruit includes all kinds of Seeds, with their Furniture. Botanists use it to signify, properly, that Part of a Plant wherein the Seed is contain'd. The Word *Fruit* is, also, us'd to signify an Assemblage of Seeds in a Plant, as in a *Pea*, *Bean*, *Ranunculus*, and the like ; and, in its general Signification, for all kinds of Grain, whether naked, or inclos'd in Cover, Capsule, or Pod, whether bony, fleshy, skinny, membranous, or the like. *Fruit* is also describ'd to be the Product or Result of the Flower, or that for whose Production, Nutrition, and Perfection, the Flower is intended. *Miller's Dict.*

In the Language of the Chymists, Metals are call'd Fruits of the Earth, as proceeding, say they, from their own Mother the Water, and entering into another Mother the Earth ; in which the Operation of their Trees is perfected, the Roots being fix'd in the Water. *Castellus.*

FRUMENTACEUS, frumentaceous, is a Term apply'd by Botanists to all such Plants as have a Conformity with Wheat, *Frumentum*, with respect either to their Fruits, Leaves, Ears, or the like. *Miller's Dict.*

FRUMENTUM INDICUM. A Name for the *Mays* ; *granis aureis*.

FRUMENTUM SARRACENICUM. A Name for the *Pagopyrum* ; *vulgare* ; *cractum* ; and the *Pagopyrum* ; *vulgare* ; *scandens*.

FRUMENTUM TURCICUM. A Name for the *Mays* ; *granis aureis*.

FRUTEX. See the Explanation of Botanical Terms, under the Article **BOTANY**.

FRUTEX ÆTHIOPICUS. A Name for the *CLUTIA* ; and also for the *Conocarpodendron* ; *foliis argenteis, sericels, latissimis*.

FRUTEX, AFRICANUS, CONIFER. A Name given

to several Species of the *CONOCARPODENDRON* and *LEPTOCARPODENDRON*.

FRUTEX AFRICANUS AMBARUM SPIRANS. A Name for the *Comæ aureæ similis Frutex* ; *ambarum spirans*.

FRUTEX CORONARIUS. A Name for the *Syringa* ; *alba* ; *sive Philadelphus Athenæi*.

FRUTEX, PAVONINUS. A Name for the *Poinciana* ; *flore pulcherrima*.

FRUTICOSUS, fruticose, are those Plants which are of an hard woody Substance.

FUCA is a Sea-fish, which resembles our Perch : There are several Species of them, of different Colours. They are found upon the Shore amongst the Alga. They afford good Aliment, and are of easy Digestion ; they purify the Blood, and provoke Urine. *Lemery des Drogues.*

FUCATUS, (from *Fucus*, Paint, or Vernish) colour'd, vernish'd : In a metaphorical Sense it means the same as *Palliativus*, palliative ; and is spoken of an imperfect Cure, where the Subject is incapable of a perfect Restoration. *Castellus.*

FUCHSIA. This Plant was so nam'd by Father *Plumier*, who discover'd it in *America*, in Honour to the Memory of *Leonard Fuchsius*, a learned Botanist.

The Characters are ;

It hath a Funnel-shap'd Flower, consisting of one Leaf, and divided into several Parts at the Brim ; whose Cup afterward becomes a roundish, soft, fleshy Fruit, which is divided into four Cells, that are full of roundish Seeds.

We have but one Sort of this Plant ; which is,

Fuchsia triphylla, flore coccineo. Plum. Nov. Gen. THREE-LEAV'D FUCHSIA, WITH A SCARLET FLOWER. Mil. Dict. Vol. 2.

There are no medicinal Virtues attributed to this Plant, that I know of.

FUCUS.

The Characters are ;

It is a slimy, coriaceous, herbaceous Substance, and has a sort of foliaceous Appearance in every Part. The Seeds are often contain'd in Follicles. For a fuller Account of the *Fucus*, see the Explication of *Tenus*, under the Article **BOTANY**.

Botanists mention a great many Species of the *Fucus* ; none of which have any medicinal Virtues attributed to them, except the two following ; which are,

1. *Fucus* ; *maritimus* ; vel *Quercus* ; *maritima* ; *vesiculas habens*, *C. B. P. 365. Tourn. Inst. 566. Boerh. Ind. A. 9. Quercus marina*, *Offic. Ger. 1378. Emac. 1567. Park. Theat. 1294. Aldrov. Dendr. 160. Fucus sive Alga marina latifolia vulgarissima*, *Raii Hist. 1. 70. Synop. 3. 40. Fucus marinus vulgarissimus latifolius, foliis Quercinis vesiculis donatis*, *Hist. Oxon. 3. 647. COMMON SEA-WRACK.*

The Herb is us'd, which agrees in Virtues with the **ALGA**. *Dale.*

2. *Fucus* ; *Lactuca folio*, *El. Bot. 443. Tourn. Inst. 168. Lichen marinus*, *Offic. Ger. 1377. Emac. 1566. Raii Hist. 1. 77. Synop. 10. Marinus Platyphyllos*, *Pluk. Almag. 216. Fucus marinus* ; *Lactuca marina dictus*, *Park. 1293. Fucus primus*, *Diosc. Fucus marinus Lactuca folio*, *Hist. Oxon. 3. 645. Muscus marinus Lactuca folio*, *C. B. 364. Lactuca marina* ; *Bryon Theophrasti, Dioscoridis, & Plinii*, *Chab. 572. Bryon marinum Lactuca foliis*, *Calc. Mus. 19. Lactuca Marina sive Intybacea*, *J. B. 3. 801. OYSTER-GREEN. See BRYON. Dale.*

Fucus, *Offic. Tertius, Diosc. Fucus Marinus, Rocella tinctorum dictus Alga Tinctoria*, *J. B. 3. 797. Raii Hist. 1. 74. Tourn. Inst. 566. Fucus marinus, Rocella Tinctorum*, *C. B. 365. Alga Cornu Cervi divisura*, *Ejusd. 364. Alga Tinctoria*, *Hist. Oxon. 3. 646. An Fucus, sive Alga membranacea purpurea parva*, *Raii Synop. 3. PURPLE SEA-WRACK. Dale.*

It is found in the *Mediterranean Sea*. See its Virtues under **ALGA**, where it passes under the Denomination of the red *Alga*.

Vitis marina, & Lenticula marina, *Offic. Lenticula marina*, *Calc. Mus. 19. Lenticula marina serratis foliis*, *Ger. Emac. 1615. Park. Theat. 1281. Fucus folliculaceus serrato folio*, *C. B. Pin. 365. Tourn. Inst. 568. Raii Hist. 1. 72. Hist. Oxon. 3. 647. Fucus folliculaceus, serratus, Sargazo*, *Mont. Exot. 7. Sargaso*, *Pis. SEA-LENTILS.*

It is found upon Rocks by the Sea-side. The Herb is us'd by the *Portuguese* and *Dutch* for a Dysury. *Dale.*

FUGAX. An Epithet sometimes apply'd to Fruits, importing the same as *Horans*, perishable.

FUGILE imports the Excrement of the Ears, or Ear-wax ; and, in *Paracelsus*, an Appearance in the Urine resembling Ear-wax. According to *Rulandus*, it signifies those Apoplexions near the Ears call'd *Parotides*. *Forstius* makes it the same as *Bubo*. *Castellus.*

FUGITIVUS SERVUS. Mercury.

FULICA, *Offic. Aldrov. Ornith. 3. 91. Will. Ornith. 239.*

Raii

F U L

F U M

Raii Ornith. 319. Ejusd. Synop. A. 116. Gesn. de Avib. 344. Jonf. de Avib. 98. Mer. Pin. 174. *Cotta major sive Calva*, Charlt. Exer. 107. *An Cotta, sive Cutta Anglorum*, Aldrov. Ornith. 3. 98. *Cotta Anglorum*, Jonf. de Avib. 99. *Poule d'eau*, Bellon. des Oyse. 181. THE COOT, or BALD-COOT.

The Heart is recommended against Epilepsies; and the Flesh is said to be good for the Poison of Serpents.

FULIGO. Soot.

ANALYSIS OF SOOT.

Take of the blackest and driest Soot, gather'd in the Chimney of an Oven, where nothing but Bread is bak'd, and nothing burnt but Vegetables, and gather'd on a very dry Day; with this fill a large glass Retort almost to the Neck; apply a large glass Receiver, after the Neck of the Retort has been thoroughly cleans'd, on the Inside; and lute the Juncture with the common Linseed-paste; raise a Fire of an hundred and fifty Degrees, and keep it up equably: A large Quantity of transparent Water will thus come over, with considerable Violence; so that if the Fire was immediately made strong at first, the Receiver would easily crack. Continue in this manner, so long as any clear Water comes over, which it will long do, although the Soot was dry. Then taking away this first Water, and pouring it into a Glass, apply the Receiver again, and raise the Fire a little above two hundred Degrees; a white, milky, fat Water, will now come over in Quantity, and with considerable Violence; proceed with a slowly-increas'd Fire, so long as this continues; keep it apart; apply the Receiver again, and raise the Fire briskly; a yellow, volatile, copious Salt, will come over, and stick all round the Sides of the Receiver; continue the Fire thus brisk, so long as any Salt rises; then, with the strongest Heat, that Sand will give, and, with a Heat of Suppression, there arises a thick black Oil. Let all cool, and there will be found, in the Neck of the Retort, a Salt which could rise no higher, even by so violent a Fire; but, in the Bottom of the Retort, there remains a black feculent Matter; the upper Surface whereof is cover'd with a very thick, whitish, saline Crust, which, both in Colour, Figure, Concretion, and Striae, resembles the common Sal Ammoniac. If the milky Water be rectify'd, it affords a very penetrating volatile Spirit, and some sharp volatile Salt.

R E M A R K S.

Here we are taught what the Agitation of an open Fire can move, change, expel, and drive through the Air by burning; first, in the Form of Smoke; then, of Flame; lastly, of Exhalation; and how high it may carry them. For a Chimney is a kind of Still-head, converging in an open Top; and sometimes rises to the Height of above thirty Feet, and carries Soot up to the Top; and, after this, discharges a black Smoke, at its upper Orifice, and disperses it through the Air, where it seems gradually to vanish. It may deserve to be consider'd, what an immense Quantity of such Matter is, by the Force of Fire, thrown up from the Surface of the whole habitable Globe, in the Places where Fire is constantly us'd: Whence we may learn, that combustible Vegetables, their Smoke, Flame, and Soot, and the black Clouds dispers'd in the Air, consist of one and the same Matter agitated by Fire. This Matter consists of several Parts; as (1.) a fetid, oily, bitter, unpleasant, nauseous Spirit, residing in the Water, that first comes over, and is afterwards constantly dispers'd through all the other Parts: This Spirit seems to be the oily, and more subtle Part of the Vegetable, acted on by the Force of Fire. (2.) Water, which is here contain'd in great Plenty, residing in this Spirit, in the first limpid, and in the second milky Liquor, as also in the saline Spirit, the volatile Salt, and, in some measure, in the Oil itself. This Water can scarce be render'd pure by any Art, being always foul'd with the unalterable Bitterness, and the inseparably disagreeable Odour, of the Spirit. (3.) A sharp, volatile, alkaline, oily Salt, which first comes over, rises into the Receiver, and sticks to the Sides thereof; for this Salt is truly alkaline, as appears by its Taste, Smell, fiery Virtue, the violent Effervescence it makes with Acids, and, by concreting therewith into a compound Salt; and hence a volatile Alkali continually impregnates the Atmosphere, in great Plenty, by Conflagrations. (4.) A sharp, alkaline, fat Spirit, consisting of the Salt just now mention'd, dissolv'd in Water, and so resembling Spirit in Fluidity, Pungency, Subtlety, and Volatility. (5.) A fetid, black, bitter, nauseous, inflammable, thick, and almost caustic Oil, mix'd with an oily Salt. (6.) A true Sal Ammoniac, sticking in the lower Part of the Neck of the Retort, and rais'd to the Surface of the black Earth below. For, if this Salt be carefully collected and separated from the alkaline Kind, that

first comes over, it proves a genuine Sal Ammoniac. It is of a whitish Colour somewhat transparent, makes no Effervescence with Acids, and, if mix'd with fix'd Alkalies, presently affords a true volatile alkaline Salt, as Sal Ammoniac does; whence the true Origin of this Salt is deriv'd from Soot. (7.) A black fix'd Earth, which, being afterwards calcin'd in an open Fire, and burnt from its Oil, which tenaciously adheres thereto, leaves a white earthy Calx behind.

This is the Analysis of Soot; by considering of which, we may learn what Parts of Vegetables are volatile, and fly off by an open Fire, and what are fix'd and remain behind, and what Fire throws off from Vegetables into the Air. Hence we see, that even Earth, which appears so fix'd in the most violent Fire, after being separated from the other Principles, yet, when mix'd with the rest, is, either by the Force of Flame, or Fire, thrown to the Distance of forty Feet through the Air, in the Form of a thin Cloud; but, there would be no End, if we should minutely pursue the physical Uses of this Process. Pills compos'd of dry Soot, and gilded, are recommended for the Cure of cold Distempers, and this often with Success. The volatile Salt of Soot is us'd with the same Success as that of Animals. Hartman recommends the Salt which rises last, for giving Relief in Cancers; and, certainly, Sal Ammoniac, prudently employ'd, is of Service against the Putrefaction of running Cancers. But the Soot produc'd by Oak-wood alone, the common Dutch Tufts, or Pit-coal, appears different upon chymical Analysis; and that again would be very different, which should be collected from the Chimney of a public Kitchen, which is continually fill'd with the Fumes, not only of the Fuel, but likewise of all kinds of boil'd, roasted, and fry'd Meats. And thus much may help us to form a Judgment of Soot. Boerhaave's Chymistry.

Spirit, and Salt of Soot, are rectify'd in the same manner as Spirit of Hartshorn.

FULIGO Metallorum is Arsenic, and sometimes Mercury.

FULMINATIO, Fulmination, in Chymistry, has two Significations: First, it imports an Explosion, and is the same as Detonation. Secondly, Fulmination, in the Depuration of the more perfect Metals, is, when, upon infusing them with Lead, a bright Colour succeeds a kind of sulphureous Cloud before appearing in the Metals, during the Fusion.

FUMANS NIX is Quick-lime.

FUMARIA.

The Characters are;

The Leaves are divided as in umbelliferous Plants; the Calyx is small, and bifoliate, in some lying under the Spur of the Flower, and in others wanting. The Flower, if curiously examin'd, in many Plants, appears tetrapetalous, the lower Petal running out in the Shape of a Keel from the End of the Pedicle: The upper, being bent in the Figure of a Spur, rises upwards, in the Form of an erect Galea; to this latter Petal grow the Calyx and Pedicle: The third and fourth Petals are lateral, and, by their Apposition, form the Representation of a very sharp-pointed Vagina, conceal'd between the two former Petals.

The Ovary, at the Extremity of the Pedicle, is short and contracted, and furnish'd with a long Tube, with a globous or discous Head: The whole Length of it seems carefully cover'd up, and conceal'd within the Vagina before describ'd. To the Tube, for its whole Length, grow two Stamina, so closely, that, in Conjunction with it, they are included in one very small, thin, pellucid Vagina, in such a manner, that nothing appears outwardly but the Apex of the Tube of the Ovary, and the two Testes. The Ovary, when ripe, becomes an unilocular Pod, full of round Seed.

If the ripe Flower be cautiously open'd, as soon as the two interior Petals are disclos'd, the Testes discharge the Seed by a sudden Explosion.

Boerhaave mentions eleven Species of this Plant; which are,

1. Fumaria; viticulis & capreolis plantis vicinis adherens; Neapolitana; flosculis subslavis in summitate nigricantibus. C. B. P. 143. Var.

2. Fumaria; Officinorum & Dioscoridis; flore purpureo. C. B. P. 143. Tourn. Inst. 422. Boerh. Ind. A. 308. Fumaria, Offic. Chab. 377. Fumaria purpurea. Ger. 927. Emac. 1088. Fumaria vulgaris. Pauc. 287. J. B. 3. 201. Rail Hist. 405. Synop. 3. 204. Fumaria vulgaris latifolia, filiquis curvis, non bivalvibus. Hist. Oxon. 2. 261. Herba Melanchalisuga. Cat. Altd. FUMITORY. Dale.

This is a tender succulent Plant, hardly able to sustain itself, having many winged finely divided Leaves, of a whitish-green Colour. The Stalks are hollow, and corner'd, much branch'd, and seldom rising very high, having, on their Tops, long Spikes of Flowers, purple above, and whitish underneath, somewhat resembling the papilionaceous Kind, having a Keel or Spur in the

the hinder Part, the Foot-stalk being inserted in the Middle of the Flower : They are succeeded by single round Seed. The whole Plant has a bitter Taste ; whence it is call'd *Fel Terræ*. It grows every-where in Fields and till'd Grounds, and flowers in *May*. The whole Plant is us'd.

This Plant gives the blue Paper much such a red Colour as Aloes ; so that, probably, it contains very near the same Principles, such as a Salt like that which is natural in the Earth, but in which the Sal Ammoniac predominates over the Nitre and marine Salt : Besides, the Salt of the Fumitory is join'd with a great deal of Sulphur and Earth, and dissolv'd in a considerable Quantity of Phlegm.

By the chymical Analysis, Fumitory yields a great deal of concreted, volatile, fix'd, lixivial Salt, and very thick Oil.

All these Principles render this Plant laxative, diuretic, good to cleanse the Blood, and remove Obstructions of the Parts. It passes for a Specific in all Diseases of the Skin, in hypochondriac Melancholy, in a Cachexy, and Dropsy : They give the Juice of Fumitory from two Ounces to six ; the Infusion in Whey, from six Ounces to ten, or twelve ; the simple Syrup, to two or three Ounces, in Ptisans ; the compound Syrup, to one or two Ounces, if you would have the Patient purg'd. The Water, also, of Fumitory is deterfive, and good to dry up Ulcers of the Mouth. An Ointment is made of the Juice of this Plant, mix'd with equal Quantities of the Juice of Elecampane, thicken'd over the Fire with some Hog's Lard. Fumitory is us'd in the Electuary *de Psyllio*, in that which they call *Sennatum*, in the Confection *Hamech*, and in the compound Syrup of Succory. *Martyn's Tournefort*.

Fumitory purges Bile, and adust Humours ; but then it requires to be taken in a large Dose. I am of Opinion, says *C. Hoffman*, with those who believe, that *Mesue* and *Avicenna* intended, that the Juice should be given from five to eleven Ounces ; the Decoction, to the Quantity of fifteen Ounces ; and the Powder, from four to five Ounces ; by which means it clarifies and purifies the Blood. In *England*, we boil the Herb in Whey, in the Spring-time, and drink the Decoction for purifying the Blood. Hence it is admirably beneficial in all Diseases proceeding from bilious and serous Humours, such as the Leprosy, Scab, Itch, Impetigo, Herpes, and such other cutaneous Disorders, and, it is said, in the Lues Venerea itself. It is diuretic, as well as sudorific ; for which Reason the Water is prescrib'd in the Lues Venerea ; and, mix'd with Theriaca Andromachi, in the Pestilence. It opens Obstructions of the Liver, and purges the Jaundice by Urine. I very much esteem the Conserve, says *C. Hoffman*, for opening Obstructions of the Viscera after universal Purgation.

The Juice, or distill'd Water, dropt into the Eyes, are believ'd to cure their Dimness : Hence the Plant takes its Name, *Fumaria*, because it provokes Tears, and clears the Sight, after the Manner of *Fumus*, or Smoke. *Pliny*.

The Essence of Fumitory, or its Juice, may be taken in Whey, for some Days together, in atrabilious Disorders. The Herb will not bear much Boiling, on account of its volatile Salts. *Raii Hist. Plant.*

Fumitory is justly accounted one of the most wholsome, as well as useful Herbs ; for it abounds not only with a bitterish Juice, but with a copious, tartareous, and nitrous Salt. Boil'd in Beer or Whey, or taken in form of Pills, it is an admirable Remedy in all chronical Diseases, and particularly those which proceed from corrupted Lymph and Serum ; as the Leprosy, Itch, Scurvy, the Lues Venerea, and many other cutaneous Diseases ; for, by promoting the Circulation of the Blood, it removes such things as clog the Viscera, opens Obstructions, excites and facilitates Excretions by Stool and Urine, and causes a free Perspiration ; by which means it works a most effectual Depuration of the Lymph and Blood. And, indeed, in our Opinion, there can hardly be found a Simple of such extraordinary Virtue, for depurating and cleansing the Mass of Blood and Humours, and corroborating the Tone of the Viscera, as Fumitory. *Hoffman. de Praestant. Remed. domest.*

3. *Fumaria* ; *Officinatum* ; *foliis caësis* ; *flore dilutè rubello*.

4. *Fumaria* ; *minor tenuifolia*. *C. B. P.* 143. *M. H.* 2. 261. LESSER NARROW-LEAV'D FUMITORY.

5. *Fumaria* ; *sempervirens & florens*, *flore albo*. *Flor.* 1. 91. EVERGREEN FUMITORY, with a white Flower.

6. *Fumaria* ; *lutea*. *C. B. P.* 143. *Fumaria, lutea, montana*. *M. H.* 2. 260. *Fumaria, quæ Split dicitur*. *J. B.* 3. 26. 203. YELLOW FUMITORY.

It grows on the cultivated Hills, and in the Fields of *Apulia* and *Calabria*, and in other Parts of *Italy* and *Sclavonia*.

Achilles Gæsserus, in his Observations, publish'd by *Velfchius*, *Obs.* 99. makes the following Remarks on this Herb : When I travel'd in *Italy*, he says, for the sake of Improvement, there was an Herb much in Request, which, in *Sclavonia*, they call *Split*, but, at *Venice*, the *Sclavonian Herb* ; it is of a bitter Taste, and its Leaves much resemble those of Rue ; whence by some it is reputed a Species of Rue, or the *Harmel*

of the *Arabians*. It grows plentifully on the Borders of *Bosnia*, about the Castle of *Bosnaprija* and is much celebrated for its Efficacy in many Disorders ; as the Gout, Sciatica, Affections of the Nerves, Convulsions, Palsy, Epilepsy, Apoplexy, and the like. Of this I sent an Account to a celebrated Physician my Friend, *G. Laubius*, and receiv'd for Answer as follows : The herb *Split*, as I am assur'd by *Vincef. Levinus*, a *Moravian*, and a Man of Learning, is a Species of *Fumaria*, or *Corydalis*. It is gather'd on the Mountain of *Bosnia*, in a stony Soil ; in Leaves, Flower, and Taste, it resembles *Fumaria*, but bears its Seed in Pods ; it is an Evergreen, and has several Roots complicated one with another, and may be call'd *Fumaria Alpina*. It is of Service in all cold Affections of the Nerves, comforts the Brain, gently purges, provokes Urine, and opens Obstructions of the Mesentery and Liver ; the Root is bitter and acrimonious. The Form of Preparation is in the following manner :

Take of the Roots of *Split*, one Ounce ; bruise them small, and put them in a Pint of White-wine, in a glaz'd Pot of sufficient Capacity ; and cover it with a Crust of Bread, well pasted round about at the Edges ; and let it boil over a gentle Fire, for an Hour. Exhibit an Ounce of this Decoction warm, for five Days together, to the Patient, fasting.

At the first time of taking, it inebriates, but afterwards it moderately exhilarates, and, with the Help of a proper Diet, soon removes the Disease. It strengthens the Brain ; and a certain Physician is persuaded, that it is good for melancholy and maniac Patients. *Greg. a Klo*, a *Bavarian* Physician, assures me of the Truth of all this, and further says, that he perfectly cur'd himself, with this Herb, of a great Weakness of the Joints, so that he could hardly walk ; and dreaded, besides, the Approach of an Epilepsy. The Dose he prescribes is two Ounces. *Raii Hist. Plant.*

7. *Fumaria* ; *claviculis donata*. *C. B. P.* 143. *M. H.* 2. 260.

8. *Fumaria* ; *bulbosa* ; *radice cava* ; *major*. *C. B. P.* See *ARISTOLOCHIA ADULTERINA*.

9. *Fumaria* ; *bulbosa* ; *radice cava* ; *major* ; *flore albo*. *C. B. P.* 143. *Var.* *J. B.* 3. 204. GREAT BULBOUS ROOTED FUMITORY, with a white Flower.

10. *Fumaria* ; *bulbosa* ; *radice non cava major*. *C. B. P.* 144. GREAT BULBOUS ROOTED FUMITORY, with a Root not hollow.

11. *Fumaria* ; *bulbosa* ; *radice non cava* ; *major* ; *flore albo*. *Boerh. Ind. alt. Plant. Vol.* 1. p. 308.

FUMARIA, Africana. A Name for the *Cysticapnos* ; *Africana* ; *scandens*.

FUMIGATIO, Fumigation, implies the Application of Fumes to particularly Parts, as those of sacitious Cinnabar to Venereal Ulcers ; or a kind of chymical Calcination, when Metals, or other hard Bodies, are corroded, or softened, by receiving certain Fumes.

FUMUS Albus. Mercury.

FUMUS Citrinus. Sulphur.

FUMUS Rubens. Orpiment.

FUMUS Duplex, in the Process for the Philosophers Stone, is Sulphur and Mercury.

FUNCTIO, Function, is the same as Action. See **ACTIO**.

FUNDA. The Sling. A sort of Bandage. See **FASCIA**.

FUNDALIA. The same as **FÆCULA** ; which see.

FUNDULUS. The Name of a Fresh-water Fish, call'd also *Gobites*, Gudgeon. See **GONIUS**. The *Gobio Capitatus*, Bull-head, is also call'd *Fundulus*.

FUNDUS, in Anatomy, is the Bottom of any of the Viscera. Thus the *Fundus Ventriculi* is the Bottom of the Stomach ; and the *Fundus Uteri* is the Bottom of the Womb.

FUNGOIDES. See the Explication of Botanic Terms, and the Divisions of *Fungi*, according to Mr. Ray's System, under the Article **BOTANY**.

FUNGUS. See the Articles **AMANITA** and **BOLRUS**.

The *Fungi* constitute the first Genus of Plants in Mr. Ray's System of Botany : For the Divisions and Subdivisions, see the Article **BOTANY**.

A prodigious Number of *Fungus* are mention'd by Botanic Authors, of which those that grow in *England*, are specify'd in the last Edition of *Ray's Synopsis Stirpium Britannicarum*, *Londini* 1724, to which I must refer the curious Reader ; none having any Medicinal Virtues, except the following : As,

1. *Fungus typhoides coccineus*, *Offic.* *Fungus typhoides coccineus Melitenfis*, *Bocc. Plant. rar.* 80. *Raii Hist.* 2. 1851. *Fungus Melitenfis*, *Ejusd. Mus. di Fiscia* 56. *Tab.* 4. *Fungus typhoides coccineus tuberosus Melitenfis*, *Ejusd.* 69. *Fungus typhoides Lubetnensis*, *Filli Hort. Pisan.* 64. *Cynomorion purpureum Officinatum*, *Mich. Nov. Gen.* 17. *Tab.* 12. **SCARLET MUSHROOM**.

It is found on a Rock near the Island of *Malta* ; and is esteem'd a very great Astringent : It is, therefore, given in the Quantity

Quantity of a Scruple, or more, in Wine or Broth, in order to stop Hæmorrhages. *Dale.*

2. FUNGUS ESCULENTUS. See AMANITA.
3. FUNGUS ROTUNDUS ORBICULARIS. See LYCOPERDON.
4. FUNGUS MAXIMUS ROTUNDUS. See LYCOPERDON.
5. FUNGUS SAMBUCINUS. See AURICULA JUDÆ.
6. FUNGUS LARICIS. See AGARICUS.
7. FUNGUS PHALLOIDES. See PHALLOIDES.

FUNGUS, in Surgery, is a spongy Excrecence, which arises in Wounds and Ulcers.

Mr. *Sharp* says, that in Wounds made by a sharp Instrument, where there is no Indisposition of Body, the Cure is generally perform'd without any Interruption, but from the Fungus; so that the Business of Surgery will consist principally in a proper Regard to that Point, and in Applications that will the least interfere with the ordinary Course of Nature, which in these Cases will be such as act the least upon the Surface of the Wound; and, agreeable to this, we find, that dry Lint only is generally the best Remedy through the whole Course of Dressing; at first it stops the Blood with less Injury than any styptic Powders or Waters; and afterwards by absorbing the Matter, which, in the Beginning of Suppuration, is thin and acrimonious, it becomes, in Effect, a Digestive: During Incarnation, it is the softest Medium that can be apply'd between the Roller and tender Granulations, and at the same time is an easy Compress upon the sprouting Fungus.

If Ulcers should be of such a Nature as to produce a spongy lax Flesh, sprouting very high above the Surface, it will be necessary to destroy it by some of the Escharotics, or the Knife: This Fungus differs very much from that belonging to healing Wounds, being more eminent and lax, and generally in one Mass; whereas the other is in little distinct Protuberances. It approaches often towards a cancerous Complexion; and, when it rises upon some Glands, actually degenerates, sometimes, into a Cancer, as has happen'd in Buboes of the Groin. When these Excrecences have arose in Venereal Ulcers, I have par'd them with a Knife; but the Flux of Blood is ordinarily so great, that I do not recommend the Method, and rather prefer Escharotics. Those in Use are the Vitriol, the Lunar Caustic, the Lapis Infernalis, and more generally the red Precipitate Powder; but even in this Case I do not think the Powder the best Remedy; for tho' I have said it is always an Escharotic, yet, as the *Pulvis Angelicus*, which is a Composition of the Precipitate Powder and burnt Alum, cuts deeper, I think it preferable to the Precipitate alone.

It is but seldom that these inveterate Fungi appear on an Ulcer; but it is very usual for those of a milder kind to rise, which may often be made to subside by Pressure, and the Use of mild Escharotics: However, if the Aspect of the Sore be white and smooth, as happens in Ulcers with a Dropsy, and often in young Women with Obstructions, it will answer no Purpose to waste the Excrecences, till the Constitution is repair'd, when most probably they will sink without any Assistance. In Ulcers, also, where the subjacent Bone is carious, great Quantities of loose flabby Flesh will grow up above the Level of the Skin; but, as the Caries is the Cause of the Disorder, 'twill be in vain to expect a Cure of the Excrecence, till the rotten Part of the Bone is remov'd; and every Attempt with Escharotics will be only a Repetition of Pain to the Patient, without any Advantage. In scrophulous Ulcers of the Glands, and indeed of almost every Part, this Disorder is very common; but, before Trial of the severe Escharotics, I would recommend the Use of the strong Precipitate Medicine, with Compress as tight as can be born without Pain, which I think generally keeps it under.

When the Excrecence is cancerous, and does not rise from a large Cancer, but only from the Skin itself, it has been usual to recommend the actual Caustery; tho' I have found it more secure, to cut away quite underneath, and dress afterwards with easy Applications; but the Cases, where either of these Methods are practicable, occur very rarely. See CANCER.

Fungous Excrecences, also, frequently arise after Wounds of the Head which penetrate the Skull, and after the Operation for the Trepan; for an Account of which see CAPUT.

Certain Tumors of the Joints, generally call'd White Swellings, are also call'd *Fungi*, by some Authors, particularly *Heister*, who gives the following Directions relative to them.

Excrecences of the Joints very nearly resemble œdematous Tumors, are attended with Danger, and therefore require a peculiar Examination; nothing but an Ignorance of the Nature, and Origin of them, that is, whether they proceed from the Blood or Serum, from a corrupted Matter, Flatus, or any other Cause, could have tempted so many Authors to pass them over in Silence, or treat of them so superficially. A Fungus in the Joints is a Tumor in the Articulations of the Limbs, without Heat or Pain, so soft, that it easily yields to the Pressure of the Fingers; but, upon the Removal thereof, expands itself immediately, like a Mushroom, without retaining any Marks. Tho' no Joints either of the Arms or Legs are exempt from this Dis-

order, the Knees, from the Quantity of Glands and latent Fat between the Ligaments and Tendons, are most subject to it. There are several Kinds of these Fungi; some are small, others large; some soft, others hard; according as the Humours producing it by their Stagnation and Inspissation, are either thin or glutinous. In some the noxious Fluids are withoutside the Articulation; these are properly termed Fungi: In others they stagnate within the very Joint, as the Serum in the Scrotum; when there an Hydrocele, which I have both seen and cur'd: This last may justly be call'd, A Dropsy of the Joint; and, by its Distention of the entire Joint, may be distinguish'd from the Fungus, as that occupies rather one Side. These two Diseases, then, may be easily distinguish'd from what has been said.

A Fungus undoubtedly arises from an Inspissation of the viscid, glutinous Serum about the Ligaments of the Joints, which, being collected after a Fall, or violent Blow, immediately raises a Tumor externally, or in the very Joint; and, by debilitating the Ligaments, destroys the natural Mobility of the Part. When the Nerves, Arteries, or Veins, are affected by these Swellings, the usual Consequence is, that the subjected Parts are deprived of their Nutriment, and the Joint, being preternaturally enlarged, is by degrees insensibly consumed.

We have already observed, that, in Excrecences of the Joints, the Ligaments are too much extended and relaxed, and, consequently, the natural Strength of the affected Limb is more or less weakened, in proportion to the Violence of the Injury received: Now, since it is very difficult to remedy this Disorder, and these Tumors cannot easily be resolved or suppured, every one must acknowledge, that the Surgeon lies under great Difficulties, who attempts their Cure; for, besides the Difficulty of bringing them to suppurate, there is Danger in the Suppuration, as it is often attended with a Caries, or incurable Fistula, which induce a Necessity of Amputation. Recent, small, and soft Fungi are often remedied by resolvent and corroborating Medicines, tho' they are generally irritated by Emollients; whereas great and inveterate ones resist all the Power of Medicine, and depend entirely on the Knife for Relief, and this does not always prove successful; for tho', by Incision, you may extract the noxious Humours, the Swelling often returns, after the Wound is healed.

But the properest Method for the Cure seems to be this: Rub the Part affected several times in a Day with warm Cloths; then foment it with the best tartarised Spirit of Wine, or Linen dipt in the same; continue this, till the natural Form and Vigour of the Limb is restored. *Purmannus's* Fomentation is likewise a very noble Remedy: Take of the Pickle of Herrings, two Pints; of the strongest Vinegar, one Pint; Leaves of Sage, two Handfuls; Roman Vitriol, an Ounce and an half; crude Alum, six Ounces: Boil these together for half an Hour; then apply them. When the Tumors begin to be dispersed, and the former Vigour of the Limb a little recover'd, the Resolution is greatly promoted by fomenting with tartarised Spirit of Wine, or fetid Oil of Tartar, several times in a Day; then, to keep out the Cold, which is very injurious, bind it up firmly with Compresses and Bandages. Lastly, I cannot but recommend one Fomentation above all others; which I have used myself, with great Success: Take of Litharge, half a Pound; Armenian Bole, an Ounce; Mastic, Myrrh, each half an Ounce; Wine-vinegar, a Pint: Boil these together for a Quarter of an Hour. You must use this Decoction warm, and every Morning and Evening dip Compresses, or thick Linen Cloths, into it, and foment the Part; observing to order, internally, proper purging, attenuating, and sudorific Medicines.

If none of the Medicines recommended answer the Purpose, *Wurtzen* and *Purman* place their sole Confidence in an Incision into the tumefied Joint, towards the lower and most commodious Part, but with the utmost Circumspection, lest any of the Ligaments or Tendons should be injured; for, by the Help of this, if the stagnating Serum is collected in one Cavity only, it will immediately discharge itself; if it is dispersed into several, it will gradually flow out in a few Days. This may be promoted, by applying Tents dipt in some Digestive, and sprinkled with Alum. But before the Incision, you should press the Tumor hard with your Fingers, and retain it with a Bandage plac'd above it, to prevent its giving way; for this will not only expose the Part more commodiously to your Sight, but, after Incision, promote the Efflux of the Serum, and make it burst out, as the Blood does after Venesection, or the Water after an Incision of the Hydrocele. When you have done this, if any Swelling still remains, lay on a Diachylum or Oxyroceum-plaster, or *Wurtzen's* red one, which, in this Case, he strongly recommends Lime-water, or Spirit of Wine: This will resolve the Remainder. Thus, when the Member is restored to its pristine Form, the Wound is healed by vulgar Balsams; carefully avoiding the Use of fat oily Medicines, as very prejudicial to the Ligaments and Tendons. But if the Serum be found too tenacious and glutinous to discharge itself voluntarily, apply some attenuating Injections at every Dressing. A Decoction of Agrimony, Alchimilla, and Birth-

wort, mixt with Honey of Roses, or of Celandine, is the best. These Injections will generally resolve the Tumors surprisingly.

Though Incision is the more ready way of Cure, some prefer Caustics; and, when the Eschar is separated, they turn out the collected Humours; proceeding afterwards as directed above. During this Process, I would advise anointing the affected Joints with a nervous Unguent, or some aromatic Spirit, till it has recover'd its natural Strength.

As it is very common for the inspissated Serum, after the Formation of the Cicatrix, to collect again; in order to prevent this, you must observe, not only to prescribe internal resolvent, purging, and sudorific Medicines, but likewise to keep the Wound open with Tents for some time, and cleanse it daily with a vulnerary Injection of a Decoction of Birthwort, Agrimony, Alchimilla, or the like, mixt with Honey of Roses, or of Celandine; for in *Purman's* Opinion this Method is the most expeditious, inasmuch that the Sinus of the Wound is not only cleansed, but filled up also with new Flesh, sometimes in six Days. It will, however, not be improper to inject some Lime-water into the Wound, and to apply the same, or a digestive Plaister, externally, always binding up the Knee carefully, to prevent a Collection of the Serum. This will prevent a Return of the Fungi, as *Wurtzen*, who had been very conversant in these Cures, testifies.

Every Excrecence of the Joints is not form'd, so as to admit of an Incision safely; for, when it is inveterate, hard, or very large, or the Patient is weak, you must forbear it, as rather more prejudicial than serviceable, because it is frequently attended with new Disorders, as a Caries, Fistula, and Gangrene, by which the Man is destroy'd, who might otherwise have arrived at a good old Age.

FUNICULUS UMBILICALIS, the umbilical Chord, or Navel-string. See **PLACENTA**.

It is the constant Practice to make an exact Ligature upon the Navel-string of a new-born Infant, lest it should bleed to Death thro' the umbilical Vessels. As soon as the Infant and Secundines are deliver'd, a strong Thread, of about an Ell long, folded together four times, and ty'd in Knots at each End, is carried twice round the umbilical Chord, about two or three Fingers-breadth from the Navel, and fasten'd with a double Knot; then, for the better Security against too copious an Hæmorrhage, a second String, at about a Finger's-breadth Distance from the former, towards the After-birth, is pass'd in the same Manner. After this, the umbilical Cord and Placenta must be cut off with Scissars, below the second Ligature; then the wounded Part must be wrapt up in a Linen Rag, on which a Compress is to be laid, and the Whole secur'd with a proper Bandage. For the rest, it may be left to the Nurse, till it becomes dry, and falls off spontaneously.

Some Moderns look upon this Ligature as superfluous, because they have seen it omitted without any subsequent Danger. This, I must own, may sometimes happen. But we have numberless Instances to the contrary, and therefore those Women are deservedly stigmatiz'd with the Character of Murderers, who, being deliver'd privately, and alone, designedly neglect this Operation, and, by that means, induce Convulsions, with other bad Symptoms, which are too generally follow'd by Death itself.

FUNIS, *ῥοῖον*, *ῥοῖον*, a Rope, a Cord: It is reckon'd among the Instruments necessary to a Surgeon, as appears from *Hippocrates*, *Lib. de Artic.* The *Arabians* call the *Pena mediann*, *Funis Brachii*, the Cord of the Arm. *Castellus*.

FURCALA. The same as **CLAVICULA**.

FURFUR, *ῥιζον*, Bran, is properly the Pellicle or Cortex which comes off from Wheat in grinding; in which Sense it occurs in several Places in *Hippocrates*, and also in *Galen*; where he recommends Bran for its deterfive Faculty, in a Gargarism. For the same Reason the *French* frequently use it in Clysters, as we learn from *Phil. Guibert's Medecin charitable*. From a Mixture of Bran, or *ῥιζον*, Bread is call'd *ῥιζοειας*, *furfuraceus*. See **ARTOS**. *Galen* asserts every thing *furfuraceous*, *ῥιζοειδης*, to have a deterfive Virtue. From a Similitude to Bran, also, those excrementitious Particles which are evacuated with the Urine are call'd *ῥιζονες*, *Furfures*, *Hippoc. de Nat. hum.* And hence we read *ῥιζοειδης ὑποστασις*, "a *furfuraceous (or branny) Hypostasis*;" and *ῥιζοειδης ὕγρ*, "furfuraceous Urine." *Coac. & Progn. Furfurosi* are Patients afflicted with a sort of Scabies or Scurt in the Head, which, upon Combing or Scratching, discharges a scaly Substance like Bran, whence the Affection is call'd *ῥιζονες*, *Furfures*; or *ῥιζοειδης*, *Furfuratio*. *Galen, de C. M. S. L. Lib. 1. Cap. 6.* by *Serenus Samonicus*, *Porriago*, and *Farrea Nubes*. See **PARINA**.

FURFURACEUS, *furfuraceous*, branny. See the preceding Article.

FURFURATIO, *ῥιζοειδης*. See **FURFUR**.

FURNUS. The same as **FORNAX**, which see.

FURO. The same as **VIVERRA**, which see.

FUROGI. A Cock. *Rulandus*.

FUROR, *μῆνις*. A Species of violent Delirium without a Fever. See **MANIA**, and **UTERINUS FUROR**.

FURUNCULUS, a Boyl.

Furunculus, among the *Latin Writers*, imports what we commonly call a Boyl, which is a small hard Tubercle rising in the Fat under the Skin, and accompanied with Inflammation, Redness, and Pain. As no Part of the Body is exempted from this Species of Tubercle, so the whole Body is sometimes so over-run with them, that the Patient does not know on which Side to lie, how to turn himself, or in what Posture to keep his Body. Not only Adults, but also young Persons, and even Infants newly born, are subject to these Tubercles, which produce violent Cries, Watchings, and Loss of Strength.

Though these Tubercles are not dangerous when they afflict Adults, yet it sometimes happens, that, when a large Number of Boyls appear on tender Infants, they produce a most intense Pain, accompanied with Crying, Watching, Weakness, Convulsions, Epilepsies, and, at last, Death. And as in all other Inflammations, so the principal Cause producing the Symptoms which accompany Boyls seems to be a too glutinous and inspissated Blood. The greater, therefore, this Inspissation is, the more virulent and numerous the Boyls produc'd generally are.

For this Reason, the principal Intention of Cure in Boyls is, by proper Remedies to restore the inspissated and stagnant Blood to its natural Motion and Circulation, with all possible Expedition. When a Patient is afflicted with few Boyls, internal Medicines are rarely exhibited, since they are generally cur'd by external Applications. But, when a large Number of Boyls appear, or return frequently, there is a Necessity for using Purgatives, and such Medicines as attenuate and purify the Blood. For which Purpose, in Adults, 'tis expedient to take away a proper Quantity of Blood, either by Venesection or Cupping with Scarification: At the same time Decoctions of the Woods, and such other Substances as attenuate the Blood, are often to be exhibited, and a proper Regimen observ'd. Persons afflicted with Boyls ought carefully to abstain from generous Liquors, especially Wine and Brandy, as also from the Use of Tobacco.

Recent Boyls are generally capable of being cur'd by external Remedies. This Intention is excellently answer'd by mixing Spirit of Vitriol with Honey, till it is highly acid, and anointing the Boyl with it. It is also of great Service to touch the Boyl frequently with pure Spirit of Vitriol, or of Sulphur: Digesting Plaisters, such as simple Diachylum, Mellilot-plaister, the Emplastrum de Spermate Ceti, or the Emplastrum Diasaponis, are also found highly efficacious in the Cure of Boyls.

But if, in consequence of a Delay in attempting the Cure, or any other Cause, the already enumerated Medicines should not be sufficient for resolving the Boyl, it must necessarily be brought to a Suppuration: And in some Cases the Maturation of an highly peccant and coagulated Matter is found so difficult, that the Boyl remains hard for some Weeks. Sometimes this stagnant Matter, in consequence of its long-continued Inspissation, becomes so acrid, that the Inflammation degenerates into malignant Ulcers, which spread gradually; or into Fistulas, which cannot be cur'd without the greatest Difficulty. The Suppuration, however, is, for the most part, remarkably accelerated by a Plaister prepar'd of Honey and Meal, or by the Diachylum-plaister with the Gums. When these are not sufficient for answering the End, maturing Cataplasms are to be us'd; tho' 'tis to be observ'd, that for Children Plaisters seem to be far more proper than Cataplasms. When the Boyl is sufficiently matured, which may be known from its Softness, and the yellow Colour of its superior Part, we are forthwith to have recourse to the Knife, and opening the Abscess, to squeeze out the corrupted Matter lodg'd in it: After this, a Diachylum-plaister is to be apply'd, and the Ulcer daily cleans'd from Pus, till the Whole is eliminated, and the Wound conglutinated.

When sucking Children are afflicted with Boyls, 'tis most expedient to exhibit Purgatives to the Mother or Nurse, who are to be enjoin'd an exact and proper Regimen; but, to the Infants themselves, gentle Laxatives must be frequently exhibited, and Preparations of Crabs-eyes, Shells, Mother of Pearl, Powder of Anise and Antimony, which are highly efficacious in correcting the Acrimony of the Blood. We must, also, observe, that as *Vari*, which are small Pustules or Pimples of the Face, are only diminutive and minute Boyls, they may be cur'd in the same Manner. The Use of Whey and mineral Waters is, also, highly beneficial to Persons afflicted with Pimples. *Hrist. Chirurg.*

FUSANEUS, *ῥυτὸς*, *ῥυτὸς*. An Epithet of such kinds of Fish as swim in Shoals, and are caught by Multitudes in Nets.

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When apply'd to Diseases, it imports the same as **SPORADICUS**; which see.

FUSANUS. The same as **EVONYMUS**; which see.

FUSIO, *χύσις*, from *χύω*, to fuse, Fusion, in general, is any kind of Resolution or Liquefaction by Fire, whence *Fusion*, and *Solutio per Ignem*, mean the same thing; but, in the common Way of Speaking, by *Fusion* we understand a Solution or Liquefaction of Metals and Minerals; and, by *Lique-*

faction, a Solution of pinguious and concreted Substances.

FUSTERNA, from *Fustis*, a Club, or Cudgel. The upper Part of a Fir-tree; so call'd, because full of Knobs and Joints, and so adapted for the making of Staves and Cudgels; as the lower Part, on the contrary, is call'd, by *Vitruvius*, *Sapinea*. *Blancard*.

FYADA. Mercury. *Rulandus*. *Johnson*.

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G. The Greek Letter Γ, among the Greek Physicians, is a Mark for an Ounce. *Rhodus ad Scribonium Largum*, N. 71. *Galen. de Compos. Med. & de Pond. & Mens.*

For the Signification of G in the Chymical Alphabet, see **ALPHABETUM CHYMICUM**.

GABAL. See **CABALES**.

GABIREA, *γαβίρεα*. A very pinguious Species of Myrrh. *Dioscorides*, Lib. 1. Cap. 77.

GABRICU. A Spagiric Term, signifying the philosophic Husband, that is, the Sulphur of Philosophers, whose Wife is call'd **BRYA**, that is, *Mercurial Water*. *Theat. Chym. Vol. 3. p. 667. and Vol. 4. p. 736.*

GADOS, *γάδος*. The same as **GALEUS**, which see.

GAODES, *γαώδες*. A Stone, which is a Species of *Ætites*; though *Dioscorides* treats of them separately. It contains in its Substance Earth, which is generally white, but sometimes pale, and sometimes yellow, and differs only in Figure from the *Belemnites*; for this latter is oblong, like an Arrow; but the *Gæodes* is round: The Mass which adheres to it smells like Violets. This Stone, as *Dioscorides* says, is astringent, drying, deterges such things as darken the Sight, and, rub'd on the Parts with Water, cures Inflammations of the Breasts and Testes. *Dioscorides*, Lib. 5. Cap. 169.

GAGATES, & *succinum nigrum*. *Offic. Gagates*. *Mer. Pin. 217. Boet. 335. Worm. 31. Aldrov. Mus. Metal. 418. Gæbal. 29. Lapis Gagates. Charlt. Fos. 14. Calceol. Mus. 355. JET.*

It is a kind of black, stony, crusty Earth, so full of Bitumen, that it smells strongly of it, and, being kindled, flames almost like Pitch, and emits a very black Smoke. It differs from the *Terra Ampelitis*, in that this latter sends forth no Flame, unless excited by Bellows, and has no bituminous Smell; whereas the *Gagates*, held to the Fire, catches Flame, and emits a Smell like Bitumen.

It is mollifying and discutient, and is suppos'd to cure the Colic, and other Distempers. *Schroder*. It is of great Efficacy in Hysterics, and the Epilepsy; and is, also, a Diuretic. The Oil thereof is good for the Palsy: *Tournefort* commends it in hysterical, epileptic, hypochondriac, and paralytic Disorders; the Dose is from six Drops to twelve. *Wormius* makes the *Gagates* only a harder Species of *Ampelitis*, and says, that, when it is polish'd, it is call'd, by *Pliny*, the *Gemma Samothracica*; by *Nicander*, *Lapis Thracius*; and, by some, *Lapis Obsidianus*. Though *Agricola*, says *Aldrovandus*, supposes the *Lapis Obsidianus* to be a Species of *Gagates*, and *Lapis Thracius*, I believe it to be a Substance very different from them both.

Dioscorides says, that, us'd in Suffumigation, it cures the Fit of an Epilepsy, and revives the Patient under hysteric Disorders; and that the Fume thereof drives away Serpents: It is an Ingredient in antiarthritic Medicines, and in *Acopa*. It is produced, he says, at the Mouth of a River in *Cilicia*, near a City call'd *Plagiopolis*; and the Place, or River, where it is found, is call'd *Gagas*. *Dioscorides*, Lib. 5. Cap. 146.

GAGEI. The same as **GALK**, which see.

GAIDEROHYMUM. A Name, in *Raii Hist. Plant.* for the *Stachys spinosa*, *Cretica*.

GALA, *γάλα*. Milk. See **FINRA**.

GALACORTA. A Species of **SCORZONERA**; which see.

GALACTINA, *γαλακτίνα*, from *γάλα*, Milk. Milk-meats. See **LACTICINIA**.

GALACTITES *Lapis*, *γαλακτίτης λίθος*, from *γάλα*, Milk. The *Galahtes-stone*. It grows out of a Lime-stone, as does, also, the **MELITITES**, (see that Word) which it very much resembles too in other respects. It is of an Ash-colour,

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and, being rub'd on a Whetstone, yields a milky and sweet Juice; whence it takes its Name. It increases almost every Year, so as at last to be as big as a Child's Head. It is somewhat heating and absterfve; whence it is proper to anoint the Eyes with it in *Defluxions* and *Ulcers*. After bruising it in Water, it ought to be reposited in a Leaden Box, because of the glutinous Quality which it retains. Triturated, and drank in Water, or sweet Wine, after Bathing, it generates Plenty of Milk in the Breasts of Women. *Dioscorides*.

GALACTODES, *γαλακτώδες*, from *γάλα*, Milk, signifies either tepid, or milk-warm, like Milk just drawn from the Cow, or a milky Colour, in which Sense it is applied to Excrements and Urine. The Word has both these Significations in several Places of *Hippocrates* and *Galen*.

GALACTOPHOROS, *γαλακτοφόρος*, from *γάλα*, Milk, and *φέρω*, to carry. Lactiferous. An Epithet applied to Canals, or Vessels, suppos'd to convey Milk to the Breasts, or rather to those Ducts, or little Tubes, which, proceeding from the glandulous Substance of the Breasts, are concentrated at the Nipples.

Galactophora Medicamenta are Medicines which generate Plenty of Milk, and determine its Influx to the Breasts. *Blancard*.

GALACTOPOETICA, *γαλακτοποιητική*, from *γάλα*, Milk, and *ποιέω*, to make, Milk-making, is an Epithet applied to that Faculty, which is suppos'd to be in the Breasts, of generating Milk. *Castellus*.

GALACTOPOSIA, *γαλακτοποσία*, from *γάλα*, Milk, and *πίσις*, of *πίνω*, to drink, is a Method of curing Diseases, for Instance, the Gout and Phtisis, by drinking of Milk.

GALANGA.

Galanga major. *Offic. Ger. Emac. 33. C. B. P. 35. Chab. 245. J. B. 2. 734. Park. Theat. 1585. Raii Hist. 2. 1338. J. Comm. Hort. Amstel. 136. C. Com. Plant. Usu. 91. Shi Wanbon, Kemph. Amoen. Exot. 901? Acorus. Pharm. GREAT GALANGAL.*

This is a tough woody Root, of about an Inch, or an Inch and an half, thick, of a brown Colour on the Outside, and whitish within, having a very thin Bark, which is beset, at about a Quarter of an Inch distant, with Rings, or Circles; it is of a bitterish Taste, somewhat aromatic, but not near so much as the smaller *Galangal*. This is sold by the Druggists under the Name of *Radix acori*, or *Acorus-root*; and is said to grow in *Java* and *Malabar*.

It is hot and dry, cephalic and carminative, and good for Flatulences, and cold Diseases of the Stomach. It is an Ingredient in the *Pulvis Ari composuit*, or else it is not much us'd. *Miller's Bot. Off.*

It is planted like *Ginger*, by setting the Root in the Earth.

The Root of the great *Galangal* is useful for all the same Purposes as *Ginger*, and is preserv'd after the same manner. It is prescrib'd to excite an Appetite, as *Capers* and *Olives* are amongst *Europeans*: For which Purpose, the fresh Roots of both Sorts of *Galangal* are cut into thin Slices, and boil'd with Fish or Flesh. They are, also, eaten raw, being sprinkled with Vinegar, Oil, and Salt, with fried or roasted Flesh or Fish, in order to promote Concoction. The Inhabitants of *Malabar* and *Java* make use of it against cold Diseases; not only in Men, but Cattle. They commonly make Puddings, or Loaves, of the Flour of the Root, which, being prepar'd with the Juice of the *Cocoz-nut*, they exhibit against Disorders of the Uterus and Bladder. It is of great Use in cold Diseases, strengthens the Stomach, and promotes Concoction. Eaten, it cures acid Eructations, discusses Flatulences, and mends the Breath; it helps the Colic, heats the Reins, and excites to Venery. Preserv'd with Sugar, it is effectual in cold Diseases

of the Brain and Nerves, the Cephalæa, and Pains of the Joints. Mix'd with the Juice of Plantain, it cures the Palpitation of the Heart. And, taken in generous Wine, Baum-water, or the Juice of Borrage, it is effectual in fainting Fits, if occasion'd by Cold; for which Reason the *Germans* exhibit it to be chew'd in the Mouth, during Venesection.

Raii Hist. Plant.

Galanga minor. Offic. Ger. Emac. 33. *Raii Hist.* 2. 1338. Park. Theat. 1585. J. B. 2. 735. Chab. 245. C. B. Pin. 35. COMMON GALANGAL.

This is a much less Plant than the former, coming over cut in short Pieces, scarce an Inch long, and not half so thick, of a redish-brown Colour, having several circular Rings on the Outside, of an hot aromatic Taste and Smell. This is said to grow in *China*; but it is not known what Plant either this or the former are the Roots of; though, by the best Judges, they are supposed to be Species of the Iris.

This is much more in Use than the former, being more stomachic, and of greater Virtue against Diseases of the Head and Bowels, expelling Wind, provoking Urine and the Menfes, and helping Digestion.

The Galangas have exactly the same Fructification with the *Bengela* of the *Indians*, the greater and lesser Cardamoms, Zedoary, the Zerumbeth of *Garcias*, and Ginger; for which Reason it would be proper to reduce them all under one Genus. They abound with a volatile oleous Salt immers'd in mild viscid Parts. *Dale.*

GALARIAS. A Fish, the same as **CALLARIAS**; which see.

GALARICIDES, GALARACTIS. A Stone, the same as **GALACTITES**; which see. *Castellus.*

GALATURÆ. Mucilages of the Seeds of Quinces, or Fleawort, made in Waters, for Instance, of Crabs, or Frogspawn, and useful in Affections of the Eyes. *Castellus.*

GALAX. The same as **GLAUX**, or **NOCTUA**; which see. It is a Species of Owl.

GALAXA, GALACIA. Terms coin'd by *Paracelsus*, by which he means what he calls *Spina Ignis*, *Lib. de Gallic. Pust. Cap. 5.* The Word *Galaxa* usually means the white Circle in the Heavens, call'd the *Via lactea*, or Galaxy, whose Principle the same profound Philosopher asserts to be a very subtle Sulphur, which is, also, the Cause of Winter, and produces Mists. He has, also, discover'd a sort of Galaxy, by Analogy, in Man, and has bestow'd that Name on the Porositics in the Cranium, *Lib. de Podagricis.* The Name *Galaxia* has also been us'd to signify the Ways of Distribution of the Chyle. *Castellus.*

GALAXIAS, γαλαξίας. The Name of a Stone, which *Galen, Lib. 9. de S. F.* confounds with the *Galaëtites*. But they are distinguish'd from each other by *Dioscorides, Lib. 5. Cap. 150. 152.* who makes the *Galaxias* a Name for the *MOROCINTHOS*; which see.

GALBANETUM *Paracelsi.* See the Prescription for this, under the Article **ARTHRITIS**, in the Part which treats of the *Arthritic Colic.*

GALBANUM, γάλβανον, χαλβάν. Galbanum. The Juice, or Gum, of a ferulaceous Plant; whose Description see under the Article **FERULA.**

Galbanum is the Juice of a ferulaceous Plant growing in *Syria*, call'd by some *Metopium*. The best is what resembles Frankincense, is grumous, pure, pinguious, free from Chips, retaining some of the Seed, and of the Plant, of a strong Smell, not very humid, nor yet quite dry. It is adulterated with Rosin, blanch'd Beans, and Ammoniacum.

Galbanum heats, burns, draws, and discusses; us'd in a Pessary, or a Suffumigation, it provokes the Menfes, and brings away the Child; rub'd on the Parts with Vinegar and Nitre, it removes Freckles on the Skin. Taken inwardly, it is good for an inveterate Cough, Difficulty of Breathing, Asthma, Eczymoses, and Spasms. Drank in Wine [for *ὄξος* I read *οἶνος*, on *Pliny's* and other Authorities] with Myrrh, it resists Poison; and, taken after the same manner, expels the dead Child. It is apply'd in Pains of the Side, and to a Boyl. The Smell of it raises those who labour under an Epilepsy, Hysterics, or Scoptomia; being burnt, the Fume thereof drives away venomous Animals; being rub'd on the Body, it preserves it from the Bites of Serpents; and, us'd with Sphondylium and Oil, kills those noxious Creatures by its Application to them. Apply'd as a Litus to the Gums, or put into the Cavity of a putrid Tooth, it eases the Tooth-ach. It is dissolv'd, in order for a Potion, with bitter Almonds and Water, or Rue, or Hydromel, or hot Bread; or, for other Purposes, with Mecomium, burnt Copper, or liquid Gall.

If you have a mind to cleanse your *Galbanum*, put it into boiling-hot Water; and, when it is melted, the Sordes will swim on the Top, and be easily separated; or put it into a thin clean Linen Cloth, and, tying it up, hang it in a Copper Pot, or Earthen Vessel, so as that neither the Cloth, nor the String, may touch the Bottom of the Vessel; then, covering the Vessel,

immerge it in boiling-hot Water; by which means the pure *Galbanum* will melt, and run through the Cloth, but the ligneous Parts will stay therein. *Dioscorides, Lib. 3. Cap. 97.*

It is a very good antihysterick, emmenagogue, and forcing Medicine; and, even when apply'd in a Plaster to the Navel, will cure hysterical Convulsions. It is likewise sudorific, when taken inwardly; and, when outwardly apply'd, it softens and digests Tumors, and brings them to Suppuration. For inward Use it ought to be strain'd, but not for outward. It is the Basis of the *Ceratum de Galbano*, and is an Ingredient in the *Emplastrum Matricale.*

Galbanum is a pinguious Juice, soluble, not in Oil, but in Water, being of a kind of middle Nature between a Gum and a Rosin; for it kindles at the Fire like a Rosin, and is soluble in an aqueous Liquor like a Gum. It is of a yellowish or redish Colour, of a soft Substance, and ductile like Wax, of a bitterish and acrimonious Taste, and of a strong and somewhat rank Smell. He who anoints his Hands with a Solution of *Galbanum*, may handle Serpents, and receive no Injury from them, if the Antients are to be credited. *Raii Hist.*

GALBEUM, plural GALBEI, or CALBEI, a sort of Bracelets worn among the *Romans*, as well for the sake of Health as Ornament, as appears from *Suetonius, Vit. Galbæ, C. 3. Castellus.*

GALBULA, Offic. *Galbula sive Picus nidum suspendens*; *Aldrov. Ornith. 1. 854. Will. Ornith. 147. Raii Ornith. 198. Ejusd. Synop. A. 68. Picus nidum suspendens, Jonf. de Avib. 80. Oriolus, seu Picus nidum suspendens, Gesn. de Avib. 645. THE WITWALL, by Salmon absurdly call'd THE YELLOW HAMMER, which is the *Emberica lutea.**

Pliny commends this Bird for the Jaundice. *Dale.*

We read also *Galbula* in the plural Number for Cypress-nuts. *Castellus.*

GALBULUS. The same with the preceding.

GALE.

The Characters are,

The Leaves are alternate; the Male Flowers are produc'd on Pedicles from the *Alæ* of the Leaves, and dispos'd on a Stalk, in the Form of a long Spike; these Flowers are naked, and adorn'd with six Stamina, which appear like Branches from them. The Ovary is seated in another Place of the same Plant, on a much shorter Pedicle, being lodg'd within a tetraphyllous caducous Calyx, and surrounded with other Male Flowers; it is of a globous Figure, here-and-there irregular, and containing one Seed.

Boerhaave mentions three Species of this Plant; which are,

1. Gale; quæ Myrto Brabanticæ similis; Caroliniensis; baccifera; fructu racemoso, sessile, monoppyreno. *Plukn. 48. 9. See AMBULON.*

2. Gale; frutex odoratus; Septentrionalium, *Boerb. Ind. A. 2. 261. Eleagnus, Offic. Gale frutex odoratus Septentrionalium, Eleagnus Cordo, Raii Synop. 3. 443. Gale frutex odoratus Septentrionalium, Eleagnus Cordo; Chamæleagnus Dodonæo, J. B. 1. 224. Chab. 66. Myrtus Brabantica sive Eleagnus Cordi, Ger. 1228. Emac. 1414. Mer. Pin. 82. Rhus Myrtifolia Belgica, C. B. Pin. 414. Raii Hist. 2. 1707. Jonf. Dend. 293. Rhus sylvestris, sive Myrtus Brabantica, vel Anglica, Park. Theat. 1451. DUTCH MYRTLE, or GAULE. *Dale.**

It delights in Heaths, and uncultivated Soils, as well as in watery and marshy Places; and is found in great Plenty in the Isle of *Ely*, among the Marshes, in a boggy Soil, and in many such Places in the North of *England*, and near the Town of *Wareham*, in *Dorsetshire*. The Flowers appear in *May* and *June*, and the Seed is ripe in *July* and *August*.

Its extraordinary Bitterness demonstrates it to be of a drying and discussive Quality; but we are told, that it is principally serviceable in killing and expelling Worms, whether it be taken inwardly, or outwardly apply'd. The Leaves and Branches are us'd in Summer to adorn the Windows and Chimneys of Chambers and Parlours, for the sake of the extraordinary sweet Smell diffus'd by the Flowers and Buds; the same, laid in Chests among Clothes, not only render them sweet-scented, but keep away Moth. *Simon Paulli* tells us, that the *Polanders* use to destroy the Lice in their Swine by this Plant; which being strew'd in the Hogsties, all the Lice die in the Space of a few Hours, and the Knits never come to be animated. And Serpents are never known to settle, or have their Nests, in those Marshes where *Gale* grows, or ever to approach, much less to creep over them. Some boil the Flowers, instead of Hops, in their Beer; which, for that Reason, affects the Head, and soon induces Ebriety. In *Bergen*, and other Places of *Norway*, they commonly prepare an Ointment of *Gale* pulveriz'd, and *May Butter*, which is found to be very efficacious in the most stubborn Itch. *Raii Hist. Plant.*

3. *Rhus Myrtifolia*; *Monspeliaca, C. B. P. 414. Boerb. Ind. alt. Plant. Fel. 2.*

It grows plentifully about *Montpelier*; it is much us'd by the Tanners to strengthen their Leather; and, by the Dyers, to give a black Colour: But I find no medicinal Virtues ascrib'd to it. *Ray, Hist. Plant.*

Boerhaave doubts, whether this last be a Species of *Gale*, or whether it ought to constitute a new Genus.

GALEA, γαλέα, in Anatomy, is a Name apply'd to the *Ammios*; it signifies also a sort of Bandage made on the Head. *Galen, de Fasciis.* *Galea*, and *Galeus*, are Names for the Fish call'd *Afellus*; *Galea* is also a Term for a sort of *Cephalalgia*, which encompasses the Head like a Helmet. In Botany, the upper Lip of a labiated Flower is call'd the *Galea*, or Crest.

GALEANTHROPIA, γαλεανθρωπία, from γαλή, or γαλήν, a Cat, and ἀνθρώπος, a Man, is a Species of Madness, in which the Patient imagines himself a Cat, and imitates its Manners. *Castellus.*

GALEATA & verticillata *Persea Folio*, in *Ray*, is a Species of *Sideritis*, so call'd from its galeated Flowers. *Ray, Hist. Plant.*

GALEGA.

The Characters are;

The Root is perennial, the Pod round, cylindrical, and full of oblong Kidney-shap'd Seeds. The Leaves grow by Pairs to a Rib terminating in an odd Leaf.

Boerhaave mentions four Species of this Plant; which are,

1. *Galega vulgaris*; floribus cœruleis, *Tourn. Inst.* 398. *Elem. Bot.* 317. *Boerh. Ind. A.* 2. 45. *Rupp. Flor. Jen.* 214. *Galega, Ruta capraria*, *Offic. Chab.* 154. *Galega*, *Ger.* 1068. *Emac.* 1253. *Raii Hist.* 1. 911. *Hist. Oxon.* 2. 91. *J. B.* 2. 342. *Galega vulgaris*, *C. B. Pin.* 352. *Park. Theat.* 417. GOATS-RUE. *Dale.*

Goats-rue has many tall, hollow, striated Branches, a Yard or more in Height, with long pinnated Leaves growing alternately on the Joints, consisting of six or eight Pair of long oval Pinnæ, smooth, and not indented about the Edges, which are subject to be folded together. The Flowers grow in long Spikes, hanging downwards in the Shape of Pease-blossoms, but less, of a pale, whitish, blue Colour: The Seed grows in long erect Pods: The Root is thick, spreading on the Earth, and abiding long. It grows in several Parts of *Italy* by Riversides; but, with us, only in Gardens; and flowers in June and July.

Goats-rue is accounted cordial, sudorific, and alexipharmic, and good against pestilential Distempers, expelling the Venom through the Pores of the Skin; and is of Use in all Kinds of Fevers, the Small-pox and Measles; it likewise kills Worms, and cures the Bites of all Kinds of venomous Creatures. *Miller's Bot. Off.*

2. *Galega*; vulgaris; floribus penitus candicantibus, *C. B. P.* 352. COMMON GOATS-RUE, WITH WHITE FLOWERS.

3. *Galega*; Africana; floribus majoribus; & siliquis crassioribus, *T.* 399. AFRICAN GOATS-RUE, WITH LARGE FLOWERS, AND THICK PODS.

4. *Galega*; facie Barbæ Jovis; sericea; repens; flore pallide luteo dense spicato. *Boerh. Ind. alt. Plant. Vol.* 2.

GALENA, γαλήνη, is the same as *Molybdæna*, or *Plumbago*; it was also the antient or first Name for the *Theriaca*, which was so call'd by *Andromachus*, and others before him, when it had as yet no Addition of Vipers Flesh. The Reason of the Name was, as *Galen* tells us, because it induces a kind of Calm, γαλήνη, over the Blood and Spirits, when disturb'd and agitated, as it were, under a Storm and Tempest, by Dis-eases. *Castellus.*

GALENICA Medicina. Medicine founded upon the Principles of *Galen*; for which see the Preface.

GALENION, γαλήνιον. The Name of an anodyne *Malagma* describ'd by *P. Ægineta*, *Lib.* 7. *Cap.* 18.

GALENUS.

Claudius Galenus was a Native of *Pergamus*, a City of *Asia Minor*. The Time of his Birth may be estimated by a Circumstance mention'd by himself, which is, that when he was thirty-eight Years of Age, he was call'd by *Marcus Aurelius* and *Lucius Verus*, then at *Aquileia*; and particularly by what he subjoins, which is, that he no sooner arriv'd there, than he set out for *Rome* with these two Emperors, the latter of whom died on the Road a few Days after. If, therefore, we reckon thirty-eight Years backwards from the Death of *Lucius Verus*, which happen'd in the Year of *Christ* one hundred and sixty-nine, we find that *Galen* must have been born in the Year one hundred and thirty-one, about the fifteenth Year of the Reign of *Adrian*. Besides, it appears from his Writings, that he liv'd under the Emperors *Antoninus*, *Marcus Aurelius*, *Lucius Verus*, *Commodus*, and *Severus*.

Galen, in his younger Years, had the Advantage to be under the Inspection of *Nicon* his Father, who was no Stranger to Philosophy, Astronomy, Geometry, and Architecture. When he was somewhat farther advanced in Years, he studied both the

Belles Lettres and Philosophy under the best Masters. He was first initiated in the School of the *Stoics*: Thence he pass'd into that of the *Academics*, and afterwards took his Turn in those of the *Peripatetics* and *Epicureans*. The three first of these Sects he relish'd pretty much, and took from each of them what he thought best; but the *Epicurean* Notions were entirely rejected by him.

After having laid such Foundations of Learning, influenc'd by a Dream of his Father's, he chose Medicine as a Profession when he was only seventeen Years of Age: Two Years after, he became Auditor to a Disciple of *Athenæus*, at whom he was soon disgusted; because he was so far from reckoning Logic necessary to a Physician, that he accounted it a Glory to be ignorant of it. After this he had several Masters, *Ælianus Meccius*, *Numesianus*, *Pelops*, *Stratonicus*, *Satyrus*, *Phebianus*, *Heraclianus*, and *Æschiron*; some of whom were the Disciples of one *Quintus*, the most celebrated Physician of his Time.

Galen, in his Youth, travel'd a great deal, both with a Design to improve from the Conversation and Precepts of the most learned Physicians, and to inform himself with respect to many Peculiarities relating to the Drugs of different Countries: He resided for some Years at *Alexandria*, the Capital of *Egypt*, where all the Sciences then flourish'd: He travel'd into *Cilicia*, *Palestine*, *Crete*, and *Cyprus*. Among his other Voyages, he made two to the Isle of *Lemnos*, in order to discover what the *Lemnian Earth* was: He also went to *Cæsaryia*, with a View to examine the *Opobalsamum*. When he was twenty-eight Years of Age, he return'd from *Alexandria* to *Pergamus*; and was so much a Master of his Art, that he had acquir'd a perfect Knowledge of the Wounds of the Nerves, and found out a successful Method of treating them, before unknown. He try'd his Skill in this respect upon the Gladiators entrusted to his Care by the Pontiff of *Pergamus*; these he treated with such Success, that never any of them died of a Wound of the Nerves; a Circumstance which proves, that *Galen* understood Surgery as well as Physic.

Four Years after his Return to *Pergamus*, he left it on account of a Sedition, and set out for *Rome*: Being now thirty-two Years of Age, he was inclin'd to fix in this great City; but, like most other great Geniuses, became the common Butt of the Malice and Envy of his cotemporary Dunces. The Physicians of *Rome* hated him; and this Circumstance oblig'd him to quit their City, a few Years after he had settled in it. Notwithstanding his short Stay among the *Romans*, his Merit had procur'd him not only the Acquaintance, but also the Veneration and Esteem, of some of the most considerable of them; for he was intimate with *Eudemus*, a *Peripatetic* Philosopher of great Reputation, whom he cur'd of a Fever contracted by the preposterous Use of the *Theriaca*, by means of that very Medicine; and, which is surprizing, predicted the Symptom which would be first remov'd, and the precise Time in which *Eudemus* would be perfectly recover'd: He was also highly esteem'd by *Sergius Paulus*, the *Pretor*, by *Barbarus*, Uncle to the Emperor *Lucius*; by *Severus*, then *Consul*, and afterwards Emperor; and, by *Boethus*, a Man of consular Dignity; before all of whom he had Occasion to make Dissections, and exhibit the Organs subservient to Respiration, and the Modulation of the Voice. Happy was it for *Galen*, that he had *Romans* who were not blind to Merit for his Patrons; for he might have liv'd at a time when a little low Cunning, and dishonest Artifice, would have been a more effectual Recommendation, than all the Knowledge in the World.

Galen's Penetration, his Skill in Medicine, and his Access to the Great, were the Circumstances which render'd him so odious to the *Roman* Physicians, that he was forc'd to quit *Rome*, after a four or five Years Stay in it, and to return to his native Country, being now thirty-seven Years of Age, so that he must not have been long at *Pergamus*, till he was call'd to *Aquileia* by *Marcus Aurelius* and *Lucius Verus*, with the former of whom he went to *Rome*; and the Emperor desiring him to accompany him into *Germany*, he excus'd himself, by pretending that *Esculapius*, for whom he had a great Veneration, because he had cur'd him of an otherwise mortal Apostem, had warn'd him in a Dream not to depart from *Rome*. Here, then, he stay'd during the Absence of the Emperor, and wrote several Books, among which was that excellent Performance *de Usu Partium*. But, as the Hearts of Physicians, as well as of Courtiers, are full of Dissidence and Jealousy, the way *Galen* liv'd, for the most part, at a Country-seat, to which *Commodus* the Emperor's Son had retir'd, under the Inspection of *Pitholaus*, who had Orders from the Emperor to consult *Galen*, if the young Prince should fall ill: Accordingly, *Galen* had an Opportunity of raising his Reputation, by curing him of a violent Fever. He, also, cur'd *Sexus*, another Son of the Emperor, and prognosticated the Termination of his Disease in a Manner directly contrary to the Judgments of all the other Physicians consulted.

'Tis not absolutely certain how long *Galen* staid at *Rome* this second time, nor, perhaps, whether he staid all his Life there, or return'd into *Asia*. This Point is involv'd in so many Difficulties and Intricacies, that the Truth is hard to be discern'd; since some Authors, who have wrote the Life of *Galen*, affirm, that he return'd from *Rome* to *Pergamus*, when he was thirty-seven, or, at most, forty Years of Age, and that he never after quitted his native Country; whilst others maintain, that he did not return home till extremely old. The Opinion of the former is inconsistent with the Facts already mention'd, and that of the latter seems more consonant to Truth, tho' its Favourers advance no Proofs for its Support, any more than they who assert, that he dy'd in *Palestine*.

Suidas informs us, that *Galen* liv'd seventy Years. If it is true, that this Physician was born about the fifteenth Year of the Reign of *Adrian*, as we have suppos'd, he must have died, according to *Suidas*, in the ninth Year of the Reign of *Severus*, which was the first of the third Century, after the Birth of *Christ*. He must have liv'd longer; if his Life was protracted to the Reign of *Caracalla*, as *Tzetzes* would have it; but not so long as those pretend, from whom *Cælius Rhodiginus* has borrow'd his Assertion, that *Galen* liv'd an hundred and forty Years. This is palpably an Exaggeration, as well as the immediately subsequent Assertion, "That *Galen* arriv'd at this advanc'd Age without ever having suffer'd the Shock of a Distemper." The Reason assign'd for it is, that this Physician had observ'd so strict a Regimen, that he had never eat or drank too much, or tasted any crude Aliments; which not only procur'd him an uninterrupted Series of Health; but, also, render'd his Breath so sweet, that he seem'd to breathe nothing but Balm and Aromatics." *Galen*, 'tis true, informs us, that by living on Aliments which are easily and equally concocted, and using proper Exercise, he had found the happy means of preserving an uninterrupted State of Health for many Years: Besides, he tells us, that after he arriv'd at the twenty-eighth Year of his Age, as he was then Master of the Art of preserving Health, and follow'd the strictest Rules of that Art, he had been exempted from all Diseases, except an Ephemera, or Fever of one Day's Continuance, produc'd by too much Study or Fatigue: But he confesses, that he had before labour'd under several Disorders, such as the Apostem, of which *Æsculapius* cur'd him, by warning him in a Dream to open the Artery between the Thumb and fore Finger of the Right Hand; a Colic, of which he was cur'd by a Clyster consisting of Oil, and a Decoction of Rue. He also informs us, that, before he was twenty-eight Years of Age, he was almost every Year afflicted with some Disorder or other; but that afterwards, by abstaining from Summer-fruits, and not eating Fruits promiscuously, but only Figs and Raisins, he was exempted from them.

Galen was highly and justly esteem'd, not only by the Antients, but also by the Moderns. *Athenæus* his Contemporary not only testifies his Regard for him, by introducing him in his Feast of Philosophers, as one of the Guests invited; but also mentions with Honour the great Number of his Works, and extols him for Eloquence and Perspicuity. *Ensebius*, who liv'd about an hundred Years after him, in the last Chapter of the fifth Book of his Ecclesiastical History, informs us, that the Veneration paid him amounted almost to religious Worship. *Trallian* calls him the divine *Galen*. *Oribasius*, who was himself a Physician, testifies the Regard he bore him at once by the Extracts he has made from his Works, and the Encomiums he bestows on him. *Actius* and *Paulus Ægineta* were so fully convinc'd of his Merit as an Author, that they faithfully copied him in most things they wrote. Whatever is valuable in the Writings of *Avicenna*, *Averroes*, and the other *Arabian* Physicians, is borrow'd from the immortal *Galen*, on whom these Authors bestow the highest Encomiums. It would be an endless Task to recount the Praises bestow'd on *Galen* by the Moderns, that is, by those who have wrote for a Century or two past: The incredible Number of Commentators on his Works, during this Time, is a Circumstance sufficiently expressive of the general Sense of the Moderns with respect to the incomparable *Galen*. But, as the most perfect Characters are neither free from Faults in themselves, nor Proof against the Caprice of others, so *Galen* not only had powerful Opposers in his own Time, but has, also, ever since, had a Crowd of formidable Adversaries. The Doctrines of *Hippocrates*, which he endeavour'd to re-establish, did not in all Probability triumph over the Methodic and other Sects, as soon as *Galen* declar'd himself against them. The Methodic Sect, in particular, subsisted for some Centuries after him; and was in so great Reputation as to furnish Physicians for the Emperors.

That *Galen* had his Faults, is certain; for an intolerable Fund of Vanity, and, which is still worse, an unaccountable Dash of Superstition and Bigotry, are to be discover'd in numberless Passages of his Works; but, as it is inconsistent with Humanity and Good-nature, maliciously to dwell upon the Imperfections of a Character, especially when a thousand

Beauties may be laid in the Balance against one Blemish, we shall finish this Life of *Galen*, by giving some Account of his Works.

The great Number, then, of his Works still extant, besides those which are lost, convince us, that it was an easy thing for him to write. *Suidas* informs us, that he wrote not only on Medicine and Philosophy, but also on Geometry and Grammar. He is said to have wrote above five hundred Books on Medicine alone; and about half as many on other Sciences. He has compos'd two Books, with no other View but to enumerate such as he had wrote, to specify the Time and Place in which some of them were compos'd, the Motive which induc'd him to write them, and the Order to be observ'd in reading them. We are inform'd by himself, that a Part of his Works was lost during his own Life, by a Fire which happen'd in the Temple of *Peace* at *Rome*. But, without enumerating all the particular Treatises wrote by *Galen*, whether lost, or still extant, it is sufficient for all the Purposes of the Reader to enumerate the several Editions made of his Works in a Body.

There are, then, two Greek Editions of *Galen*; one at *Venice* by *Aldus* and *Andreas Asulanus*, publish'd in the Year 1525, in five Folio Volumes; another, and more correct Edition, tho' not without numberless Faults, was publish'd at *Basil*, by *Andreas Cratandrus*, *Johannes Hervagius*, and *Johannes Bebelius*, in the Year 1538, in five Folio Volumes.

There are various Latin Editions, translated by different Hands; one, for Instance, at *Lyons*, by *Simon Colinaeus*, in the Year 1536, in Folio; and the same was publish'd, much enlarg'd, and far more correct, by *Joh. Frellonius*, in the Year 1554, Folio. Another Edition is publish'd at *Basil*, in 1541, by *Joh. Frobenius*, and, in 1549, by the same *Frobenius*, in four Volumes; and in the Year 1562, with a Preface of *Conradus Gesnerus*, in which he writes with a great deal of Judgment concerning *Galen*, his Writings, and the several Translators of them. There is another publish'd at *Venice*, by the *Junta*, who have given ten Editions of *Galen*, the first in Octavo, in the Year 1541; and all the others in Folio, in some subsequent Years: The best and fullest of all these are the ninth and tenth, which are exactly the same.

We know of no Greek and Latin Edition of *Galen*, hitherto publish'd, but one at *Paris*, in the Year 1639, under the Inspection of *Renatus Charterius*, in thirteen Volumes, Folio: Which elegant Work comprehends not only the Works of *Galen*, but also all those of *Hippocrates*, and some other Physicians, together with a correct Translation, by comparing the Text with other Editions and Manuscripts.

GALEOBDULON. A Name in *Oribasius* and *Dioscorides*, for the GALEOPSIS.

GALEONYMUS. A Fish, the same as the GALEUS; which see.

GALEOPSIS.

The Characters are;

The Calyx is quinquefid, and Funnel-shaped; the upper Lip, or Galea, is entirely hollow; the lower Lip, or Beard, trifid; the middle Segment being the greatest.

Boerhaave mentions fourteen Species of this Plant, none of which have any medicinal Virtues particularly attributed to them, except the four following.

1. Galeopsis; procerior; setida; spicata, *Tourn. Inst.* 185. *Elem. Bot.* 154. *Boerb. Ind. A.* 162. *Rupp. Flor. Jen.* 182. *Dill. Cat. Giff.* 97. Galeopsis, Offic. Galeopsis vera, Ger. Emac. 704. Mer. Pin. 44. Galeopsis legitima Dioscoridis, Park. Theat. 908. Raii Hist. 1. 548. Synop. 3. 237. Galeopsis Dioscoridis, Merc. Bot. 1. 37. Phyt. Brit. 45. Galeopsis sive Urtica incers magna fetidissima, J. B. 3. 853. Lamium maximum sylvaticum fetidum, C. B. Pin. 134. Stachys sylvatica, Rivin. Irr. Buxb. 312. Stachys setida septem flagellis reptatricibus, Hist. Oxon. 3. 382. HEDGE-NETTLE.

The Galeopsis smells of Bitumen, or fetid Oil: It has an herby Taste, a little saltish, astringent, and does not stain the blue Paper; which makes us conjecture, that its Salt participates very much of the natural Salt of the Earth, which in this Plant is involved in a great deal of Sulphur, and terrestrial Parts.

It is vulnerary, and very sweetening: An Oil made of it by Infusion is excellent for Burns, and for Wounds of the tendinous Parts. In the Country, they use successfully the Infusion of its Leaves and Flowers for a nephritic Colic, serophulous Tumors, and the Pleurisy. An Extract may be prepared of it to serve during the Winter. *Martyn's Townesfort*.

It has the Reputation of dissolving hard Tumors, Cancers, Pani, and Parotides; and is recommended against Putrefactions, Gangrenes, and spreading Ulcers. *Boerhaave* esteems it excellent in hysteric Fits.

2. Galeopsis; palustris; folio Betonicæ; flore variegato, *Tourn. Inst.* 185. *Dill. Cat. Giff.* 109. *Boerb. Ind. A.* 162. *Rupp. Flor. Jen.* 183. *Panax Galoni*, Offic. Ger. 858. Emac. 1005. *Marrubium aquaticum acutum*, Ger. 565. Galeopsis angustifolia setida, J. B. 3. 804. Stachys palustris setida, C. B. Pin. 216. Hist. Oxon. 3. 383. Stachys palustris, Rivin. Irr. Mon. Buxb. 312. *Sideritis Anglica*, strumosa radice, Park. Theat.

Theat. 587. Raii Hist. 1. 563. Synop. 3. 242. Mer. Pin. 113. *Sideritis 1. gravis odoris*, Merc. Bot. 1. 68. Phyt. Brit. 113. **CLOWNS ALL-HEAL.** Dale, p. 156.

The Roots of this Plant creep and spread much in the Earth, having tuberos Knots growing here-and-there upon them. The Stalks arise to be two or three Feet high, square and rough, almost to Prickliness, and are but little branched. The Leaves grow upon the Joints, which are at some Distance, on short Foot-stalks; they are long, narrow, hairy, and sharp-pointed, indented about the Edges, of a pretty strong Smell. The Flowers grow whorl-fashion towards the Top of the Stalks, and are pretty large, of a deep-red Colour, with a hollow Galea, and the Labella spotted with White, each set in a rough Calyx, ending in five Points, and containing four black Seeds. It grows in Ditches and watery Places, and flowers in June and July. The Leaves are used.

This has been cry'd up for a mighty Wound-herb, ever since Gerard gave such Commendations of it in his Herbal, being accounted good to cure all green Wounds, beaten into a Cataplasm with Hogs Lard, and apply'd to the wounded Part. It likewise stops all kinds of Hæmorrhages.

Cæsalpinus, who calls it *Tertiola*, says, it cures a Tertian Ague. This Plant contains some Sal Ammoniac, joined with a great deal of fetid Oil; its Leaves are bitter, stinking, and give hardly any Tincture of red to blue Paper. The whole Plant is vulnerary and sweetening.

3. Galeopsis; five *Urtica iners*; flore luteo, J. B. 3. 323. Rupp. Flor. Jen. 183. Tourn. Inst. 181. Elem. Bot. 154. Boerb. Ind. A. 162. *Leucas montana*, Offic. *Lamium luteum*, Ger. 567. Emac. 702. Park. Theat. 606. Raii Hist. 1. 560. Synop. 3. 240. Mer. Pin. 69. *Lamium folio oblongo luteum*, C. B. Pin. 231. Hist. Oxon. 3. 385. *Lamium flore luteo*, Merc. Bot. 1. 46. Phyt. Brit. 65. Rivin. Irr. Mon. *Lamium spurium flore luteo*, Völk. Flor. Nor. 239. Galeopsis, Chab. 435. Galeobdolon, Dill. Cat. Giff. 49. **YELLOW ARCHANGEL.**

It grows in Woods and Thickets, and flowers in May; and is said to resist the Poison of venomous Animals, particularly those of the Sea-kind. Dale from *Dioscorides*.

4. Galeopsis; lutea; amplioribus foliis; maculatis. Tourn. Inst. 186. Elem. Bot. 154. Boerb. Ind. A. 162. *Milzadella*, *Lamium maculatum*, *Urtica lactea*, Offic. Mont. Ind. 48. *Lamium luteum foliis maculatis*, Sath. Hort. Ed. *Lamium maculatum*, C. B. Pin. 231. Raii Hist. 1. 560. Hist. Oxon. 3. 385. **SPOTTED ARCHANGEL.**

It grows in Gardens, and flowers in June; the Herb is in Use, and its Virtues are the same with those of the *Lamium*; album; non foetens; folio oblongo, or white Archangel; which see.

Galeopsis five Urtica iners, floribus albis. A Name for the *Lamium*; non foetens; folio oblongo.

Galeopsis five Urtica iners, folio & flore minore. A Name for the *Lamium*; purpureum; foetidum; folio subrotundo; five *Galeopsis Dioscoridis*.

GALERITA. The Lark. The same as **ALAUDE**; which see.

GALEUS. A Sea-Fish; call'd also, *Mustelus Spinax*, Offic. Bellon. de Aquat. 136. *Galeus acanthias*, Rondel. de Pisc. 1. 373. Gesn. de Aquat. 607. Jonst. de Pisc. 16. *Galeus acanthias five Spinax*, Aldrov. de Pisc. 399. Raii Ichth. 56. Ejusd. Synop. Pisc. 21. *Galeus acanthias, Mustelus Spinax*, Charlt. Pisc. 8. *Canis marinus aut Galeus*, Schonef. Ichth. 29. **THE HOUND-FISH, FALSLY CALL'D SEAL.**

It is an Inhabitant of the cavernous Places of the Sea; and its rough Skin is of Use to Artificers in polishing Alabaster, Marble, and other Things; but I find no Part of the Fish used in Medicine. Dale.

GALEXIAS, γαλιξίας, a Species of *Mustelus*, or *Galeus*, but more delicate, and of a softer Flesh; and for that Reason highly valued by the Romans. Gal. de al. Fac.

GALGALUS, Galgula, Galgulus. The same as **GALBULAS**, or **GALBULA**; which see.

GALIA. In the *Antidotarium* there is a Description of two Sorts of *Galia*, the Pure, and the Aromatic; the Pure or Simple is composed of Galls, unripe Dates, and emblic Myrobalans; the Aromatic has a Mixture of some Perfumes, as Musk. *Salmaf. Plin. Exercit.*

GALIA MOSCHATA, vel MUSCATA. In *Constantine's Piaticum*, there is frequent Mention of the *Galia muscata*, which is nothing but the sweet-scented or aromatic *Galia*; in many other Places he mentions *Galia*, without the Addition of *Muscata*. And in the Antidote of *Myrepsus*, call'd *Dialacca*, *Galia muscata* is one of the Ingredients; and, Antidote 424. is call'd γαλιάνη μοσχάτη σκιννασσία, "the Preparation, or Composition of a *Galium Moschatum*;" or, as *Fuchsius* renders it, *compositio muscata*; it consists of many Ingredients, and among others the *Nux muscata*, or Nutmeg, and Cinnamon, but has nothing of the *Galia Zibettina*, or *Galia* of the Civet-cat, which is an extraordinary Perfume, and call'd *Galia*, from γαλή, a Weasel; for the Civet-cat is of the Weasel-kind. The *Galia muscata* or *aromatica* of *Avicenna*, therefore, or that

composed of emblic Myrobalans, Galls, unripe Dates, and other Simples, tho' quite another Thing, yet took its Name from the *Galia Zibettica*, because it had a sweet Scent, as from a Mixture of that Dung. *Salmaf.* The same Author observes, that it should, perhaps, more properly be call'd *Gallia moschata*, because Galls are an Ingredient in it.

GALIANCONES. See **ANCI.**

GALIAS. The Name of a Fish; smaller than the *Galeus*; it is call'd also *Afellus* and *Castellus*. *Castellus*.

GALIOPSIS, in *Ray* and *Dioscorides*, is the same as **GALEOPSIS**, before described.

GALLA, a Gall. See **QUERCUS**.

GALLATURA. That Part of the Albumen of an Egg, which is of a somewhat more dense and close Substance than the rest, and is suppos'd to be a Sign of Fecundity in the Egg, towards the Generation of a Chick. *Castellus*.

GALLERIDAS. A Fish. The same as **ASELLUS**. *Castellus*.

GALLIA MOSCHATA. A Composition of cordial and strengthening Troches, in which the Ingredients are only Musk, Amber, and Wood of Aloes. The Dose is from eight Grains to a Scruple. The Prescription is *Mesue's*. *Lemery, Pharmacop. univ. p. 25.*

The Troches are thus prepar'd:

Take of Wood of Aloes, five Drams; Ambergrise, three Drams; Musk, one Dram; with Mucilage of Tragacanth extracted with Rose-water: Make it into Troches.

GALLICUS Morbus. See **LUES VENÉREA**.

GALLINA AQUATICA, Offic. *Gallinula Chloropus major*, Aldrov. Ornith. 3. 450. Will. Ornith. 232. Raii Ornith. 312. Ejusd. Synop. A. 113. Jonst. de Avib. 111. *Gallina Chloropus*, Charlt. Exer. 112. *Gallus palustris*, Mer. Pin. 174. *Poulette d'eau*, Bellon. des Oyse. 211. **THE COMMON WATER-HEN, or MOOR-HEN.**

It is commonly found in Fish-ponds, near great Mens Houses: The Parts us'd in Medicine are; the Crow, the Feathers, and their Ashes.

The Crow is recommended in the Asthma; the Smoke of the Feathers is suppos'd to be good for hysteric Fits, and their Ashes dry up old Ulcers and Fistulas. Dale.

GALLINA DOMESTICA.

Gallus & Gallina, Offic. Schrod. 5. 317. **THE COCK AND HEN.**

The Parts in Use are; the whole Bird, the Brain, the Coats of the Ventricle or Crow, the Testicles, the Gall, the Fat, the Throat, the Dung, and the Eggs.

An Hen slit, and apply'd to the Head while the Blood is hot, is of good Effect in the Phrensy, Cephalalgia, and other Disorders of that Part: It is also said to cure the Bites of venomous Animals, being us'd in the same Manner. Laid on a Carbuncle, it draws out the Poison; and, what deserves Observation, stops an Hæmorrhage in recent Wounds, being apply'd thereto: The living Hen, stript of its Feathers about the Anus, and apply'd, extracts the Poison of Buboes. The Brain is of an incrassating Quality, and stops Fluxes. The inner Coat of the Ventricle, extracted, dry'd, and pulveriz'd, has a Virtue of binding and strengthening the Stomach, and, by that means, of restraining Vomiting and Fluxes of the Belly; and is, also, a Lithontriptic. The Testicles of the Cock are said to have a wonderful Effect in restoring lost Strength in Diseases, in supplying prolific Semen, and Venereal Vigour. The Gall deterges Spots in the Skin, being rub'd thereon, and is good for the Eyes. The Fat of Hens and Capons heats, moistens, mollifies, and is lenitive, and of a middle Nature between the Fats of a Swine and a Goose, correcting their Acrimony: It is of Use in Fissures of the Lips, Pains of the Ears, and Pustules of the Eyes. The Throat of a Cock burnt, and not consum'd, but scorcht and dry'd, and given at Night before Supper, cures involuntary nocturnal Discharges of Urine, by a specific Property. *Solenand. S. 4. Conf. 11.* The Dung is said to perform all the same Effects as Pigeons Dung, tho' in an inferior Degree; but it is particularly useful in Pains of the Colon and Uterus; it is, also, efficacious in the Jaundice, Stone, and Suppression of Urine; the white Part of the Dung is observ'd to be best. The Ashes dry up Achors of the Head, and other running Sores, being sprinkled thereon: The yellow Part of the Dung consolidates an Exulceration of the Bladder. The Eggs afford, for medicinal Uses, the Shells, Membranes, Albumen, and Yolk: The Shells are lithontriptic, and are endu'd with the Virtue of incising a tartareous Mucilage: The Membranes have a diuretic Quality, us'd either inwardly or outwardly, and are apply'd to the Prepuce of Infants: The Albumen is refrigerating, astringent, and agglutinant, and is of frequent Use in Redness of the Eyes, in Conglutination of Wounds (with the common Bole). In Fractures, and the like Cases, it is, also, of Service for *Anacollemas*. *Hippocrates* exhibited three or four Whites of Eggs to Persons in a Fever, as a Refrigerant and Expellent;

Expellent: The Yolk of an Egg has an anodyne, maturing, digesting, and relaxing Virtue; for which Reasons, it is a very frequent Ingredient in Clysters, and, mixt with a little Salt, is usually apply'd, in the Shell of a Walnut, to the Navel of Infants, to provoke Excretion of the Fæces. *Schrad. Dale.*

See ALIMENTA, CAPO, ALBUMEN, and FIBRA.

GALLINAGINIS CAPUT. A Caruncle or Eminence in the Urethra, near which the Semen is excreted from the seminal Vesicles into the Urethra; its Use is to prevent the Semen bursting out at one Side, from dashing against the Orifice of the other Side. It is, also, call'd, **GALLI GALLINACEI CAPUT**, the Names being taken from the Similitude.

GALLINAGO, Offic. *Scolopax*, Charlt. Exer. 112. *Raii Ornith.* 281. *Scolopax*, *Gallinago maxima*. *Ejusd. Synop. A.* 104. Will. Ornith. 213. *Becassine*, *Bellon. des Oyse* 116. *Scolopax fœve* *Perdix rustica*, *Aldrov. Ornith.* 3. 471. *Jonst. de Avib.* 110. *Rusticula*, vel *Perdix Rustica major*, *Gesn. de Avib.* 444. *Rusticola major*, *Scolopax*, *Gallinago*, *Mer. Pin.* 173. **THE WOODCOCK.**

The Ashes of a Woodcock, burnt, are said to be lithontriptic. The Woodcock, consider'd as Food, is said to be nourishing, strengthening, and restorative, but not quite so easy of Digestion, as some other Birds, whose Flesh is white. The Salts of this Bird are highly exalted by their habitual Exercise, which renders it a very proper Aliment, where there is a Redundance of Acid.

The **GALLINAGO MINOR** is the Snipe or Snite, which agrees with the Woodcock in Virtues, except that it is more easily digested, and esteem'd more delicate to the Taste.

GALLIVASSA, in the Indian Language *Tropillo*, is a kind of Mexican Crow, almost as large as an Eagle. It contains much volatile Salt and Oil; and its Flesh eaten is thought to be good for the Small-pox. *Lemery des Drogues.*

GALLINULA. See **GALLINA AQUATICA.**

GALLITRICHIA AFFINIS. A Name for the *Lamium*; *maximum*; *fœtens*; *purpureum*; *galea hormini.*

GALLITRICHUM. A Name given to several Species of *SCLAREA*; which see.

GALLITRICHUM, FOLIO ROTUNDIORE. A Name for the *Melissa*; *peregrina*; *caule brevi*; *plantaginis folio.*

GALLIUM.

The Characters are;

It resembles the *Mollugo* in every thing; only its Leaves are even softer than those of that Herb.

Boerhaave mentions five Species of this Plant; which are,

1. *Gallium*; *luteum*, *Ger. 967. Emac. 1126. Park. Theat.* 564. *C. B. Pin. 335. Raii Hist. 1. 442. Synop. 3. 224. Dill. Cat. Giff. 82. Hist. Oxon. 3. 327. Tourn. Inst. 115. Elem. Bot. 94. Boerb. Ind. A. 148. Rupp. Flor. Jen. 2. Mer. Pin. 44. Merc. Bot. 1. 37. Phyt. Brit. 45. Buxb. Gallium, Offic. Chab. 548. Gallion verum, J. B. 3. 70. CHEESE-RENING. Dale.*

This Plant, from a long slender spreading Root, sends forth many square weak Stalks, a Foot or two high, beset at the Joints with slender narrow Leaves, about an Inch long, set in a Circle; the Stalks of a dark-green Colour. On the Tops of the Stalks, as well as on the smaller Branches, which come out of the Sides, grow thick Spikes of small, yellow, monopetalous Flowers, divided into four Segments, of a pleasant Smell; each of which is succeeded by two small globular black Seeds: It grows on Banks, and dry barren Places, flowering in June and July. The whole Herb is us'd.

This Plant is drying and incrustating, good in stopping all kinds of Fluxes and Hæmorrhages, and for the Cure of Wounds: Some commend a Decoction of it for the Gout; and a Bath made of it is refreshing to wash the Feet of Persons tir'd with over-walking. In the Northern Countries they use this Herb for the making their Cheeses, instead of Rennet, whence it is call'd Cheese-rennet; the Flowers containing an Acidity, which may be got by Distillation. This is a Plant but seldom us'd in the Shops.

This Plant is vulnerary and deterfive; it is us'd in *Catalonia* for the Epilepsy: The Syrup made with the Juice of its Flowers is very aperitive and emmenagogic. *Tabernaemontanus* says, that the Decoction of it is excellent for the dry Scab of young Children, provided you bathe them often with it. *Martyn's Tournefort.*

An Infusion by way of Tea is recommended for the Gout and Epilepsy.

2. *Gallium*; *fixatile*; *glauco folio.* *Bocc. Mus. Part. 2. Tab. 116. P. 115. LADIES-BED-STRAW of the Rocks, with a glaucous Leaf.*

3. *Gallium*; *rubrum.* *C. B. P. 325. RED LADIES-BED-STRAW.*

4. *Gallium*; *nigropurpureum*; *montanum*; *tenuifolium.* *Col. 1. 298.*

5. *Gallium*; *album*; *linifolium.* *Barr. Obs. 99.*

Boerb. Ind. alt. Plant. Vol. 1. p. 149.

GALLOPAVO, the Peacock. See **PAVO.**

GALLOS, γᾶλλος, an Eunuch; also the Name of a Dropax in *P. Ægineta, Lib. 7. Cap. 19.*

GALLUS. See **GALLINA.**

GALREDA. A kind of Jelly made of the cartilaginous Parts of Animals boil'd. In *Paracelsus, Lib. 2. de Morb. Metallifor.* it signifies an excrementitious Mouldiness. *Castellus.*

GALTIHENUM, GALITHENUM. A Term us'd by *Paracelsus*, obscure enough: He would seem, however, to have us understand by it the occult Virtue, in the Cure of the Epilepsy, which ought to be induc'd in the Essence of the MUMIA. See MUMIA.

GAMAHEU, Gamahæi, Gamathæi, are Stones on which celestial Virtues, and superior Constellations, are impress'd in wonderful Characters, Images, and Figures, as we sometimes observe, wrought by the Hand of Nature, in those which are digged out of Mountains, or found by the Banks of Waters. *Rulandus. Johnson.* *Gamaheu* has an astral Force in moving the Spirits, and the Principles of the Microcosm. *Paracelsus* ascribes very much to those *Gamahæan* Images and Characters, as being effected by the Influence of Heaven, as appears every-where in his Works; whence he calls a fourth Species of the Magic Art *Gamahæos*, which is otherwise nam'd *Talismanica.* *Gamaheum Conjugium* was an Expression us'd by the Magi to signify the Conjunction of the celestial Virtues and Properties with the Elementary. *Castellus.*

GAMANDRA. A Name for the **GUTTA GAMBA.**

GAMATHA. See **GAMAHEU.**

GAMBOGIUM. See **GUTTA GAMBA.**

GAMBOIDEA, (Gutta). The same as **GUTTA GAMBA.**

GAMMAROS. See **CANCER.**

GAMMATA (Ferramenta). Chirurgical Instruments for cauterizing in an *Hernia aquosa*, mention'd by *P. Ægineta, Lib. 6. Cap. 62.* and so call'd because they were made after the Figure of the Greek Letter Gamma (γ).

GAMMAUT. So the *Italians* call a sort of crooked Knife, for opening Abscesses, blunt on the gibbous or back Part, and sharp in the hollow. *Scultet. Armament.*

GAMPHELE. The same as *Gena*, or *Maxilla*, the Cheek; for which see the Article **CAPUT.**

GAMPSONYX, γαμψώνυξ, from γαμψός, crooked, or bent, and ὄνυξ, a Claw, or Talon, having crooked Claws. An Epithet of Beasts of Prey, who are observ'd to be provided with such Claws.

GANGAMON. A Name for the *Omentum*, given it on account of the various Contexture of Veins and Arteries with which it is interspers'd, and made, as it is fancy'd, to resemble a Fishing-net, which the *Greeks* call γάσγαμον, *Gangamon.* Some call, by this Name, that kind of *Plexus Nervorum*, or Contexture of Nerves, which is observ'd about the Navel. *Gorræus.*

GANGILA. A Name in *Ray* for the *Sesamum Africanum.* See **SESAMUM.**

GANGITIS. The same as **GAGATES.** *Gorræus.*

GANGLION, γάσγιον, is a nodous and renitent Induration of a Nerve, of a natural Colour, void of Pain, proceeding from a Concretion of the nervous Juice, thro' some Disturbance of the Order of the Fibres from an external Cause, as a Stroke, or too great a Compression of the Nerves. *Galen, in Def. Med. & Com. 1. de Artic.* Or it is describ'd to be a preternatural Tumor, not deeply seated, but just under the Skin, unequal, and, on Compression, receding sideways. It affects many Parts of the Body. There often happens such a Concretion in the Hands and Feet, as *Æturius* says: And *Paulus* tells us, that a *Ganglion* may arise on the Ankle-bone, the Carpus, and the Joints. *Celsus* says, that *Ganglia* may affect the Head, and calls them *Tubercula*, "Tubercles." And *Galen, Com. 2. Lib. de Artic.* writes, that they are Concretions about the Cartilages and Nerves, form'd of their nutritious Juices; and that they arise from a glutinous and mucous Humour. *Hippocrates, Lib. de Artic.* says, it is customary to open τὰ γάσγιασμα, "those ganglious Tubercles," which contain a loose and mucous Fleth, expecting to find an Humour in them, but are deceiv'd, tho' without any bad Consequence to the Patient.

The Moderns, by this Word, generally mean no more than any hard, and, for the most part, moveable Tumor, form'd both on the internal and external Surface of the Carpus, most frequently near the Tendons or Ligaments of the Muscles, but without any considerable Pain or Uneasiness to the Patient. The *Germans* call this Disorder *Oberbein*, which corresponds to the Word *Hyperostosis*; either because this Species of Tumor generally arises upon the Bones, or because it sometimes assumes, in a great measure, the Hardness of a Bone. But though a *Ganglion* bears so near a Resemblance to encysted Tumors, that *Celsus* did not hesitate to refer the former to the latter; yet they differ in this, that, what we at present call a *Ganglion*, scarcely appears any-where but on the Wrists, or Hands; whereas

whereas encysted Tumors are form'd in any Parts of the Body whatever. Some of the Moderns, however, continue to give the Name of *Ganglion* to hard and moveable Tumors on the Bones of the Head in general, but more especially of the Forehead. See a Dissertation *de Ganglio*, publish'd at *Altorf*, in the Year 1717.

As for the Cause of a *Ganglion*, this Species of Tumor seems generally to arise, as *Sennertus* says, in the fifth Book of his *Praxis Medica*, from thick and inspissated Humours, which, in consequence of a Blow, a Fall, a Contusion, a Distortion, a Luxation, or any other external Violence done to the Tendons or Ligaments of the Hands, are collected between the Fibres and the Coats, and gradually so increas'd as to form a Tumor as large as a Filbert, a Nutmeg, or Walnut, and sometimes a Pigeon's Egg. *Blancard*, in his *Collect. Med. Phys.* informs us, that the celebrated *Ruyseh* once found in a Carcase a *Ganglion*, which was pellucid like the crystalline Humour of the Eye. One of the same Kind, as large as a Nutmeg, and form'd upon the external Part of the Carpus, in a young Woman, I saw extirpated by my own Son, at *Helmstadt*, in the Year 1736. *Cyprianus*, in his *Treatise de Fœtu Tuba Fallopiana extracto*, informs us, that *Ganglions* are form'd by a certain Lymph, not unlike the Whites of Eggs, secreted within the Vaginae of the Tendons, but never coming to a Suppuration. Instances of this I myself have seen.

As *Ganglions* differ very considerably with respect to Bulk, so they generally vary no less manifestly with respect to their Number. For the most part, one *Ganglion* is only form'd; but sometimes a great many appear, and that in both Hands: Of this we have a memorable Instance in the *Miscellanea Acad. Nat. Curios. Decur. 1. An. 3. Obs. 326*. As for the Figure of *Ganglions*, some of them are globular, while others resemble an Acorn, or a small Egg. Some, again, are smooth and plain, whilst others have rough and unequal Surfaces; some are greatly, and others little, or not at all, prominent; some, especially when recent, are easily resolv'd, whereas others, especially of the inveterate Kind, are not to be cur'd without the utmost Difficulty.

In recent *Ganglions*, the inspissated Matter is generally successfully digested by careful Frictions of the prominent Part, rubbing it sufficiently every Morning with *fasting Spittle*, and applying over it a Plate of Lead, to be wore for some Weeks successively, and secur'd by proper Bandages. Some think the Lead possess'd of a still more discutient Quality, if it is previously rub'd with Mercury. Others, more superstitious than wise, attribute a peculiar, but unaccountable Virtue to those Balls with which wild Beasts, especially Deer, have been kill'd. Others, with *Forestus*, in his *Obs. Chirurg. Lib. 3. Cap. 9*, order the *Ganglion* to be cover'd with the *Emplastrum de Ammoniaco*; and others, with the *Emplastrum de Ranis cum Mercurio*; whilst others, as the most effectual means of Relief, order the Part affected to be carefully and frequently rub'd with the *Oleum Petrae*, the *Oleum Philosophorum*, or the Oil of Soap. Sometimes *Ganglions*, especially when recent, or treated for some time with the above-mention'd Digestives, suddenly disappear, upon the Surgeon's pressing them with all his Strength with his Thumb: See *Aetius, Tetrabibl. 4. Sermon. 3. Cap. 9*, and *Add. Mussius*, in his *Prax. Chirurg. Dec. 2. Obs. 8*. *Meckren*, in his *Observat. Chirurg. Cap. 44*, informs us, that a *Ganglion* may be equally happily and expeditiously cur'd by laying the Patient's Hand on a Table, and strongly striking the Tumor several times with the Fist, as in *Tab. LVII. Fig. 1*. This seems to be the Reason why *Mussius*, in the Book last quoted, orders inveterate *Ganglions*, which can neither be digested, nor resolv'd by Pressure, to be dispers'd by striking them with a Club or Mallet of Wood, arm'd with Lead; afterwards applying the *Emplastrum de Ranis cum Mercurio* to the Part affected, in order to prevent the Return of the Disorder. *Helvetius* is, also, said to have us'd a kind of wooden Mallet for this Purpose. The Reason why a Cure is brought about in this Manner, seems principally to be this, that the Membrane or Bag of the Tubercle being ruptur'd by the Strokes, the Matter, collected and inspissated within it, is, by the Blows, expell'd, and afterwards gradually dissipated by Frictions, and digestive Medicines. But in striking the *Ganglion*, we ought to be highly careful not to wound other Parts of the Hand, or shatter the Bones; by which means the Patient might be expos'd to other terrible Misfortunes. When these Measures prove ineffectual, or when, by reason of the dubious Event, we do not care to use this Method, the *Ganglion* is, like an encysted Tumor, to be cut out by the Knife, or extirpated by proper Corroatives. That, in this Case, the Knife was successfully us'd by *Salingen*, is sufficiently obvious from the fourteenth Chapter of the fourth Book of his *Chirurgia*: And I myself have frequently extirpated *Ganglions* in this Manner. But, in performing the Operation, we ought to be highly careful not to injure the adjacent Tendons, or Ligaments. As for applying to the Part affected the Hand of a dead Man, or that of a Seventh-son, muttering some particular Words, in the Night-time, when the Moon is in her Decree,

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it is a Practice which bespeaks so much Superstition, and Want of Reason, though recommended not only by old Women, but also by some Physicians, that every Person, in his Senses, must necessarily despise it. The Reader may, however, for the sake of Curiosity, consult *Clavius*, in his *Observationes*, where Methods of this Nature are recommended for the Cure of a *Ganglion*. *Heister Chir.*

Besides the above-explain'd Significations of *Ganglion*, it imports a Knot, frequently found in the Course of the Nerves, which is not morbid. For, where-ever any Nerve sends out a Branch, or receives one from another, or where two Nerves join together, there is generally a *Ganglion* or *Plexus*, either less or more, as may be seen at the Beginning of all the Nerves of the *Medulla Spinalis*, and in many other Places of the Body.

GANGRENA. A Gangrene. See INFLAMMATIO.

A Gangrene is a Disorder of any soft Part of the Body, tending to a Mortification, in consequence of the Influx of the vital Humours into the Arteries, and their Return through the Veins being prevented; whereas a *Sphacelus* destroys all the vital Action of the Part affected, whilst Life remains in the other Parts.

Galen, in the eleventh Chapter of his second Book *de Method. Medend. ad Glaucum*, gives a very accurate Definition of a Gangrene, in the following Words: "A Gangrene, says he, is a Mortification not already form'd, but which, in consequence of the Degree of Inflammation, will afterwards be form'd." This Passage he elsewhere paraphrases, in the following Words: "A Gangrene is said to be induc'd, when any Part of the Body, not yet mortified, is nevertheless so inflam'd, that it must necessarily become so." *Paulus Aegineta*, in the nineteenth Chapter of his fourth Book, in his usual Manner, gives the same Definition from *Galen*; but premises, that an Inflammation, neither resolv'd [*ἀπορροή*] nor converted into Pus, for the most part, degenerates either into a Gangrene, or a *Sphacelus*. A Gangrene, therefore, imports a beginning Mortification of any Part. A legitimate Gangrene is easily distinguish'd from an Inflammation, by the Signs hereafter enumerated. But when a violent Inflammation will be chang'd into a Gangrene, or when a Gangrene begins to be form'd by an Inflammation, is a Point not easily determin'd by this Definition; for, at the very Instant, that a violent Inflammation of a soft Part tends to a Mortification, the entire Life of the Part is not utterly destroy'd by a Gangrene. *Galen*, in *Commen. 4. in Hippocrat. de Artic.* has taken notice of this Circumstance; for, after he has observ'd, that a Gangrene is a Disorder of a middle Nature betwixt a *Sphacelus* and a violent Inflammation; and that it is much more violent than an Inflammation, as it is more mild than a *Sphacelus*, he adds the following Words: "We sometimes so confound and abuse the Names of Diseases which have a Dependence on each other, as to apply the Name of one to another, though it does not totally come up to its genuine Nature: Thus we sometimes call a violent Inflammation, when it no longer retains its Colour and Pain, a Gangrene, though it is not really such, but will, if neglected, soon become such."

Celsus seems to have us'd the Words *Cancer* and *Gangrene* promiscuously; for, in the twenty-sixth Chapter of his fifth Book, he uses the following Words: "Sometimes a Cancer is form'd either by a violent Inflammation, immoderate Heat, excessive Cold, too tight Bandage of a Wound, Old-age, or a bad Habit of Body." Then he gives such a Description of a Cancer as perfectly agrees with a Gangrene and *Sphacelus*; for *Celsus* made a Distinction between a Cancer and a Carcinoma; and, at last, subjoins the following Words: "Sometimes, what the Greeks call *γαστήρ*, is form'd; the former, that is, a Cancer, happens in any Part of the Body, whereas the latter, that is, a Gangrene, happens in the prominent Parts of the Body, as betwixt the Nails and the Arm-pits, or betwixt the Toes and the Groin; and generally in old Persons, or those of a bad Habit of Body." Then he goes on to describe all the Signs of a Gangrene, which spreads, and, at last, terminates in a *Sphacelus*. Hence we have just Reason to conclude, that what, in the Extremities of the Body, *Celsus* call'd a Gangrene, he, in other Parts, call'd a Cancer. However, in the twenty-sixth Chapter of his fifth Book, when describing the Measures to be taken for the Cure of a Gangrene, he gives the following Cautions: "Sometimes all the Means of Relief prove ineffectual, and the Cancer spreads, notwithstanding their Use. In this Case the deplorable, though only remaining, Method of Relief, is to amputate the Member, which gradually becomes mortified, that, by this Means, the rest of the Body may be sav'd." But it is sufficiently obvious, that *Celsus*, in this Passage, means the Amputation of the Extremities, when corrupted by a *Sphacelus*, which he calls a Cancer.

A Gangrene is subsequent to an Inflammation; when the Obstruction is so great, that it cannot, by any means, be resolv'd; and so diffusive; as to possess all the Vessels of the affected Part; or when, though, at the Beginning of the Disorder, some Vessels were free from the Obstruction, they are, nevertheless, so compress'd by the adjacent, obstructed, and tumid Vessels, as to stop all Circulation of the Humours through the Arteries, and, consequently, prevent their Return through the Veins, which are only Continuations of them. The same Misfortune will happen, if, by the Impetus and Velocity of the Circulation, or by the Acrimony of the circulating Humours, or a Concurrence of both these Causes, the Vessels should be suddenly ruptur'd in the inflam'd Part, and the discharg'd Humours become putresc'd. In both Cases, the Influx of the arterial Fluids into the Part is prevented, and their Return through the Veins consequently cut off; for which Reason, the whole Part so affected has no longer any vital Communication with the rest of the Body, and will, therefore, by a spontaneous Principle of Change, common to all the Parts of Animals, tend to Putrefaction. In this Case, therefore, a quite different Method of Cure is requir'd from that proper in a Suppuration, in which there is only a gentle Separation of the Ends of the obstructed Vessels, together with an Immeasurability of the obstructing Matter, and some Degree of Depravation in the Fluids, but such as may be overcome by Nature; whereas Putrefaction shews, that Nature is baffled in her Efforts, as *Galen* justly observes: For, says he, if the natural Heat recedes much from its due Temperature, then the Blood becomes putrid, as in a Carcase; but, when this Heat retains some Degree of Force, a kind of mix'd Change is produc'd, partly by a preternatural, and partly by a natural, Cause. The preternatural Cause produces Putrefaction; and the natural Cause, Concoction. In Suppuration, therefore, there is a Concoction, since the Principles of Life remain in the Part; and this is a natural Cause: Whereas, in a Gangrene, Putrefaction alone, which is a preternatural Cause, operates. So long as the soft Parts alone are thus mortify'd, the Disorder is call'd a Gangrene, and is principally seated in the *Membrana Adiposa*, as will afterwards appear; but, when the Muscles, Tendons, Ligaments, Periosteum, and Bones, are thoroughly mortify'd, the Disorder is call'd a *Sphacelus*. But, because, in a Carcase, every Degree of vital Action is destroy'd, as well in the Whole, as in every particular Part, 'tis therefore mention'd in the Definition, that a *Sphacelus* supposes a perfect Mortification in the Part affected, whilst a Principle of Life remains in the rest of the Body. But since, in a Gangrene, there is generally a remaining Heat, supply'd by the neighbouring and adjacent Parts, as yet alive; since a Gangrene generally succeeds a violent Inflammation, which burns, as it were, the Parts affected; and since, as we observ'd before, a violent Inflammation is sometimes call'd a Gangrene, when it is just about to degenerate into it; Surgeons, for these Reasons, generally call a Gangrene *Ignis Calidus*, or a hot Fire; and a *Sphacelus*, in which all the vital Action ceases, *Ignis Frigidus*, or a cold Fire; because the Part thus affected soon becomes as cold as the surrounding Air; for the Cause exciting Heat, which is the Motion of the Humours through the Vessels, is entirely wanting in a sphacelated Part.

But the Word *Sphacelus* does not, among the antient Physicians, seem to have denoted a perfect Mortification of the Part affected. Thus *Hippocrates*, in the seventh Chapter of his first Book *de Morbis*, describes a *Sphacelus* of the Brain, but does not pronounce it absolutely mortal; and only adds, that few escape from it: And so far was he from thinking it irretrievably fatal, that, in the very next Chapter, he lays down the Measures to be taken for its Cure. But 'tis sufficiently obvious, that, in this Part, a *Sphacelus*, properly so call'd, must necessarily prove speedily mortal, if, by the Word *Sphacelus*, an absolute Mortification of so noble an Organ as the Brain is meant. *Galen*, in the eighth Chapter of his second Book *de Locis affectis*, when considering a Passage of *Archigenes*, an antient Physician, in which the Word *σφαιλωδης* occurs, observes, that the Meaning of this Word is highly ambiguous; since some meant no more by it than a violent Pain; others, such an excessive Inflammation as endanger'd the Corruption of the Part affected; and others, the actual Corruption of it. There are several other Passages of *Hippocrates* and *Galen*, which shew, that various Ideas are affix'd to this Word enumerated by *Gorræus* and *Foësius*; but those already mention'd are sufficient for our Purpose.

A Gangrene, therefore, generally affects only the *Membrana Adiposa*; whereas a *Sphacelus* affects all the Parts, as far as the Bone. A Gangrene is previous to a *Sphacelus*, which generally succeeds it, unless it derives its Origin from the Corruption of the Bone, the Marrow, or the Periosteum. But a singular kind of Gangrene, which is without Fever, Inflammation, or Loss of the natural Colour, may be produc'd in the Parts, inferior to the spinal Marrow, by a Contusion of that Part.

'Tis shewn, under the Article INFLAMMATIO, that an Inflammation happens no-where more frequently than in the *Membrana Adiposa*: But, since a Gangrene almost always follows a violent Inflammation, 'tis sufficiently obvious, that the former must have the same Seat with the latter. This is carefully to be adverted to; because Surgeons sometimes think a *Sphacelus* present, where there is only a Gangrene; when, for Instance, a Phlegmon arises on the Back of the Hand, where there is scarcely any Fat, the *Membrana Cellulosa* often becomes incredibly tumid; and, when such a Phlegmon is succeeded by a Gangrene, and the Part found mortify'd considerably deep, they think all the Parts corrupted by a *Sphacelus*; whilst, at the same time, under the tumid *Membrana Cellulosa*, the Tendons and Muscles are entire, as afterwards appears upon a Separation of the corrupted Parts. If, therefore, in so lean a Part, so large a Tumor may be produc'd by Inflammation, still larger Tumors must be produc'd, by the same means, in the Buttocks, Thighs, Legs, and Arms, where there is naturally so large a Quantity of Fat laid over the greater Muscles, in order to facilitate their Motions, by a pinguious and lubricating Oil.

Though frequently the Parts are for a considerable Depth corrupted by a Gangrene, yet numberless Cases in Surgery convince us, that the Whole of the Tumor is only lodg'd in the *Membrana Adiposa*, which, after its Separation from the subjacent live Parts, may be extract'd in large Pieces. Thus Members of the Body are sometimes preserv'd, when their Extirpation seem'd to be the only remaining Means of Relief. But a *Sphacelus* mortifies not only the *Membrana Adiposa*, but also the Muscles, Tendons, Ligaments, Periosteum, and Bones.

If we consider, that the highly tumid *Membrana Adiposa*, pent up and confin'd by the Skin, compresses all the subjacent Parts, it is sufficiently obvious, that, by this Cause alone, the vital Influx and Efflux of the Humours in the subjacent Parts may be totally destroy'd. Besides, a Putrefaction, succeeding a Gangrene, may convey its Taint to all the adjacent Parts; for which Reason, a Gangrene is generally previous to a *Sphacelus*. There are, however, some Cases, in which a *Sphacelus* is form'd without any preceding Gangrene; when, for Instance, by a violent Contusion in any Part of the Body, all the Parts are at once destroy'd, as far as the Bone; or when, by any Cause whatever, the Bones, the Marrow contain'd in them, or the Periosteum, which conveys Vessels to the Bones, and receives those sent out from them, are so affected, that the vital Motion of the Humours through the Arteries and Veins in these Parts is totally destroy'd. The *Lues Venerea*, and *Spina Ventosa*, have been often observ'd to corrupt the Bones in this manner, even whilst the external Parts have as yet remain'd sound; in which Case, the Disorder diffuses itself from the subjacent Parts, and spreads, till it has corrupted all around them; whereas, in a Gangrene, the external Parts are first affected, and then the subjacent Parts are, as it were, gradually suffocated.

Why a Gangrene should ensue, when, by a violent Contusion, Wound, or any other Cause, the spinal Marrow is so disorder'd, that the Influx of the nervous Fluid into the Parts below the Wound is entirely prevented, is shewn under the Articles CONTUSA and VULNUS; where 'tis also observ'd, that the Destruction of the larger Nerves produces the like Misfortunes; whereas other Gangrenes generally succeed violent Fevers, or Inflammations; or, in extreme old Age, arise purely from the Defect of natural Heat. This last Species, arising without the previous Signs before-mention'd, preys on all the Parts in a slow, but irresistible Manner.

A Gangrene, therefore, and a *Sphacelus*, have one common Cause; but these Disorders differ with respect to Violence, Duration, and the Parts they affect.

When the Arteries of the human Body are so chang'd, that they cannot transmit the Blood, and other Humours, which, in a State of Health, move through them, duly carry on the Secretions, and then convey the Fluids to the Veins, Death ensues. When this happens only in the *Membrana Adiposa*, and Skin, the Disorder is call'd a Gangrene; but, when the vital Action, in any Part of the Body, is totally destroy'd, then a *Sphacelus* is form'd. The Cause, therefore, of a Gangrene and *Sphacelus* is the same; that is, every thing which destroys the Influx and Efflux, the Secretion and Excretion, of the Humours, in any Part of the Body.

But the Force of the Cause which produces a *Sphacelus*, must be greater than that of the same Cause when producing a Gangrene; because, by the former, far more solid Parts are corrupted, such as the Muscles, Tendons, and Bones; whereas the latter generally only induces a total Mortification on the tender *Membrana Adiposa*, and Skin.

The same Cause which produces a Gangrene, continuing to act, may also produce a *Sphacelus*. Thus, for Instance, if, by an external Compression, the vital Influx and Efflux of the

Humours in the Skin, and Membrana Adiposa, are entirely destroy'd, 'tis sufficiently obvious, that, unless the compressing Cause can be remov'd, all the subjacent Parts, as far as the Bone, must be, as it were, suffocated; and, consequently, that a Sphacelus arises from the same Cause with a Gangrene; only it must operate longer to produce the former, than the latter.

The Place or Seat of a Gangrene is the Membrana Adiposa; whereas a Sphacelus affects all the Parts: Another Circumstance which serves to distinguish between a Gangrene and a Sphacelus.

A Gangrene and Sphacelus may, therefore, be form'd by all those Causes which produce an Inflammation, especially if the Fluids become stagnant, and if the Action of the circulating Blood upon them is strong. Among the Causes of this Kind are, a Ligature of the Veins; their Compression by any Cause, a Tumor for Instance; intense Cold; an obstructed Perspiration in a Phlegmon by Astringents, emplastick Medicines, cold Substances, Repellents, or stupefying Remedies, especially if acrid Substances are either exhibited internally, or mix'd with external Applications; internal or external Inflammations, Wounds, Contusions, Luxations, and Fractures, especially when the Bandage is apply'd too tight; oleous Substances of an acrid Nature apply'd to sound Parts, long lying in Bed, and Hernias of the confin'd or incarcerated Kind.

In this, and some subsequent Paragraphs, we shall treat of the Causes capable of producing a Gangrene and Sphacelus. First, then, we have here enumerated all the Causes capable of producing an Inflammation; for every Inflammation presupposes an Obstruction of the small arterial Ducts, by which the free Circulation of the Fluids is prevented; so that, if this Misfortune was to happen to all the Vessels of any Part of the Body, a Sphacelus would be form'd; since all vital Motion of the Humours is destroy'd in the Part so affected. Now, if we consider, that, according to the Definition of an Inflammation, there is, in this Disorder, not only a Stagnation and Immobility of the Fluids, but, also, that the Impetus of the succeeding Blood acts powerfully on the obstructed Parts, 'tis obvious, that the small Vessels may frequently be suddenly ruptur'd, the Fluids discharg'd, and become putrefy'd, and, consequently, a Gangrene form'd, as is shewn under the Article INFLAMMATIO. But as the Arteries ought to convey the Fluids to the Veins, which carry them back to the Heart, from which they ought to be again forc'd through the Arteries, in order to maintain the due Circulation of the Blood through the whole Body, and all its Parts, all those Causes, therefore, which hinder the Arteries from evacuating their Contents freely into the Veins, are capable of suffocating and preventing the vital Motion in the Part, and, consequently, of producing a Gangrene and Sphacelus. Now, an Obstruction of the Veins can never happen, except by some external Compression. Of this Kind, therefore, are

Ligatures of the Veins. Boerhaave, in explaining this Passage, us'd to give his Auditors the following Case: A young Gentleman of Distinction, returning drunk from an Entertainment, with a View to enjoy the Benefit of the Air, laid his Elbows on the inferior Part of an open Window, where he continu'd all the Night, drown'd in Wine, and overpowered by Sleep. But, waking next Morning, and attempting to move his Body, he dropt down, as if he had lost his Legs; for, unfortunately, his Garters, being too tight, had so compress'd the Veins, that the Blood could not return through them, whilst, at the same time, the Blood was forc'd through the Arteries by an increas'd Impetus, in consequence of the Intoxication: Hence arose a Tumor of the Parts, which render'd the Garters still tighter. As, by this Means, the vital Motion of the Humours was entirely destroy'd, a Gangrene was form'd in each Leg; which, soon ascending to his Thighs, prov'd fatal to him.

Compression of the Veins by any Cause: As Ligatures, so other Causes compressing the Veins, may, for the same Reason, produce a Gangrene. Medicinal and surgical Observations convince us, that incurable Gangrenes and Sphaceluses have drawn their Origins from latent Tumors, which could neither be remov'd, nor easily known: Thus Hildanus, in *Cap. 4. de Gangræna & Sphacelo*, tells us, that he saw a memorable Instance of this Kind. A certain Man, in the Flower of his Age, and of an excellent Constitution, began to perceive an unusual Coldness, Heaviness, and Stupor, in both his Legs, without any known previous Cause. These Symptoms increasing gradually, a Gangrene ensue'd, which was succeeded by a Sphacelus, which ascend'd to his Knees, and prov'd mortal. Upon dissecting the Body, there was found a scirrhus Tumor, compressing that Part of the *Vena Cava descendens*, where it is divided into the two Iliacs. The Author adds, that, for the sake of Brevity, he omitted more Instances of the same Kind. I myself, says *Van Swieten*, saw a memorable

Instance of this Kind, in a Man, whose Left Leg, two Weeks before his Death, began to be painful, tumid, and, at last, all over œdematous, the Tumor ascending above the Knee. As his Foot began to grow cold, and the Points of his Toes livid, I suspected that a Gangrene would soon ensue: I therefore order'd the whole Part to be perpetually wrapt up in antiseptic Fomentations. A skilful Surgeon, who attended this Patient, believ'd, as well as I, that a latent Collection of Pus compress'd the Iliac or Crural Vein; and therefore thought the Disorder incurable, unless the compressing Cause could be remov'd. We could not, however, by the strictest Examination, discover where the Cause of the Disorder was lodg'd; for which Reason, we concluded that the Use of Antiseptics alone was to be persisted in. Next Day we were surpris'd to find the Leg warmer, and the Swelling much abated. The Patient, however, and those who attended him, told us, that he had discharg'd by the Anus several large Quantities of Wind, with great Violence and Noise. The Swelling of the affected Leg was hourly diminish'd, and, in the Space of two Days, by gentle Frictions, was totally remov'd: The Patient, however, died. Upon opening his Body, I found no Pus in the larger Cavities of his Body: But, in the Abdomen, I found the Intestinum Colon not lying under the Stomach, as it usually does, but pressing upon it, and distended with Wind; but that Part of it which descends from the Spleen, behind the small Intestines in the Left Side, was so contracted, that it was scarce so large as one's Thumb; but, as soon as it emerg'd again below the small Intestines, it appear'd inflated. Hence, 'tis highly probable, that the Colon, highly distended with Wind, and touching the Iliac Vein, had compress'd it in that Part. Hence arose the Tumor of the Leg on the same Side, which again disappear'd upon the Explosion of the Wind. Unless I myself had seen these Phenomena in the Carcase, I could have scarcely thought, that so large a Vein could have been so compress'd by Flatulences, as to endanger a Gangrene.

Intense Cold: The Molecules of the Blood are, by Cold, so compacted, as to become incapable of circulating thro' the Vessels, and, consequently, to form Obstructions. Now, if an intense Cold acts so powerfully on any Part of the Body, as to congeal the Fluids which ought to move in them, 'tis sufficiently obvious, that the vital Influx and Efflux of the Humours must, in such a Part, be totally destroy'd, and, consequently, a legitimate Gangrene form'd, or even a Sphacelus, if the Force of the Cold had penetrated as far as the Bones. 'Tis true, the Blood, and its Serum, require a greater Degree of Cold to coagulate them, than Water; and the native Heat of a sound human Body resists a very intense Cold; especially if a brisk Motion is us'd. There are, however, daily, and melancholy Examples, in the Northern Climates, of the Extremity of the Body being so disorder'd by an intense Cold, as suddenly to fall off, corrupted by a true and legitimate Sphacelus. Hence the Effects of intense Cold are, in a great measure, the same with those produc'd by the Action of live Fire on the Parts of the human Body; that is, they are suddenly destroy'd, both by the one, and the other. For this Reason, perhaps, *Hippocrates*, in his *Treatise de Aere, Locis, & Aquis*, speaking of the Complexion of the *Scythians*, says, they are burnt by the Cold. And *Virgil*, speaking of burning the Stubble on the Ground, uses this Expression;

*Ne tenues pluviae, rapidive potentia solis
Acrior, aut Boreæ penetrabile frigus adarat.*

A Gangrene and Sphacelus, however, produc'd by intense Cold, have certain peculiar Signs, by which they may be distinguish'd from other Gangrenes, as will afterwards be shewn. They, also, require a different Method of Cure, as will afterwards appear. But, among all other Causes, none produces a Gangrene so suddenly, as a Cold succeeding an intense Heat. Thus *De la Motte*, in the third Volume of his *Traité Complet de Chirurgie*, informs us, that, in the Month of July, whilst a Servant was cleansing a deep Well, he perceiv'd an intense Cold, and a violent Pain, in the great Toe of his Left Foot, which soon after ascend'd to the Ankle. All this Part was corrupted by a Sphacelus; and, about an Hour after, the Disorder reach'd the Middle of his Leg, and would soon have put an End to his Life, unless the Member had been seasonably amputated.

An obstructed Perspiration: That an obstructed Perspiration is highly prejudicial to Inflammations, and that Inflammations of the worst Kind sometimes arise from the external Application of pinguious Substances, especially when mix'd with those of an acrid Nature, is shewn under the Article INFLAMMATIO. 'Tis also shewn, under the same Article, that Astringents, cold Substances, and emplastick Medicines, soon change an Inflammation into a Gangrene; for a Phlegmon, properly so call'd, is only lodg'd in the narrow Parts of the larger Vessels, which are either naturally, or by their Dilatation, capable of receiving the red Blood. Hence, tho' the Circulation of the Humours through the larger Vessels should be obstructed, it may still be carried freely on through the

the smaller Vessels. But a Gangrene is only form'd, when the vital Efflux and Influx of the Humours, in all the Series of Vessels, in any Part of the Body, is destroy'd. For this Reason, all those Things which obstruct Perspiration in the inflam'd Part, produce a Gangrene; because they destroy the Motion of the Fluids through the smallest Vessels, whilst the larger Vessels are already become impervious by the Inflammation. Practical Observations sufficiently convince us, that Substances of this Kind are productive of highly unluckly Effects, when apply'd to Parts affected with a Phlegmon, as may be seen in *Hildanus*, and the *Miscellanea Curiosa*.

But no Cause more frequently produces a Gangrene, than the Application to an inflam'd Part of such Substances, as by their acrid Stimulus augment the Motion in it; as also the accelerating of the circulatory Motion by the internal Exhibition of the like Medicines: For 'tis shewn under the Article INFLAMMATIO, that the Acrimony, and violent Motion, of the Humours, change an Inflammation into a Gangrene. Hence, so fatal Effects have often been produc'd, whilst in inflammatory Diseases the Chymists have boldly exhibited their volatile oleous Salts, and other highly acrid Substances, as the most powerful Resolvents, or whilst the Surgeons have apply'd Spirit of Sal Ammoniac, or Alcohol, to inflam'd Parts.

Internal or external Inflammations: 'Tis shewn under the Article INFLAMMATIO, how a Phlegmon degenerates into a Gangrene. But there, such a Disorder is only treated of, as affects the external Parts, and by the various sensible Changes of Symptoms, manifests the Transition of an Inflammation into a Gangrene. 'Tis, however, certain, that a legitimate Phlegmon, together with all its Terminations, whether in a Suppuration, Gangrene, or Scirrhus, may also be found in the internal Parts of the Body, as is shewn under the Article INFLAMMATIO.

Wounds, Contusions, Luxations, and Fractures: With respect to these, see their respective Articles. But how frequently a Gangrene is produc'd by the too tight Application of Bandages, is sufficiently obvious from daily Experience, and a Reflection on the Compression of the Blood-vessels thereby occasion'd.

As for Substances of an oleous and acrid Nature; the Reader, with respect to these, may consult the Article INFLAMMATIO: For, as Substances of this Kind are often of an highly acrid Nature, and strongly adhere to the Part to which they are apply'd, they may produce a Gangrene, where there was no previous Inflammation; but much sooner, where there is one. Thus *Boerhaave* gave his Pupils an Account of a Lady afflicted with a Palsy of her Right Leg and Thigh; and, when a Liniment of the *Galbanetum Paracelsi*, Oil of Hartshorn, and other stimulating acrid Substances, was order'd to be gently rub'd on the Parts affected, the Patient, fond of a speedy Cure, apply'd a large Quantity of the Liniment, and cover'd all the Part with a Cerate, in order to retain the Virtues of the Medicine the longer. Next Day, however, her whole Thigh and Leg were found affected with a Gangrene. Hence it appears, how dangerous the Use of oleous and acrid Substances, in Conjunction, often is, if they are unskillfully apply'd.

As for long lying in Bed; this is a very frequent Cause of a Gangrene; for whilst we lie in Bed, the whole Weight of the Body is supported by a few Parts. Hence, in consequence of the Compression of the Vessels, a gentle Inflammation, and Pain, are produc'd; which, however, are immediately remov'd, on changing the Posture of the Body. Hence the soundest and most healthy Persons, now-and-then, change the Posture of their Bodies in Sleep; by which this Misfortune is easily prevented. But, when in intensely painful Disorders, such as the Gout and arthritic Pains, the Patients are forc'd to lie without changing their Posture, since the Pain is greatly augmented by Motion, the Arteries and Veins are compress'd in the Parts which sustain the Weight of the Body; and by this means the vital Motion of the Humours is prevented, and a Gangrene form'd. But a Gangrene is never more frequently or suddenly excited by lying in Bed, than in acute Diseases, in which there is such an Insensibility produc'd, as renders the Patient incapable of perceiving the Pain and Uneasiness excited by the Compression of the Parts; in which Case his Strength being impair'd, he generally lies on his Back. Now, when a Person lies thus horizontally, his Bed is always sunk in the Middle, and elevated both at the Head and Foot. Hence, the whole Weight of the Body is almost supported by the *Os Sacrum*, and *Os Coccygis*, which are only cover'd with the Integuments, and a small Quantity of Fat. The soft Parts, therefore, which cover these Bones, are by the strong Compression totally depriv'd of the Influx and Efflux of the vital Humours, and, consequently, soon become mortify'd. And even these Bones themselves are sometimes corrupted. Hence, if the Patients should escape the Fury of these dangerous Diseases, they are afterwards subjected to the Disadvantages of a tedious and long-protracted Cure. In order to prevent all these Misfortunes, the Change of Posture alone is sufficient; for, if the Body is only turn'd six times, for Instance, in twenty-four Hours the Parts will be freed from

the Pressure of the incumbent Body, the Vessels will be dilated by the impel'd Humours, and the Life of the Part will return. Care is, also, to be taken, that the Patient be laid immediately, and without the Interposition of a Shirt, on the softest Sheeps-skins to be had, than which nothing is more beneficial in this Case. When there is a Separation of the Epidermis, and a gentle Excoriation produc'd, the Part is to be cover'd with the *Emplastrum Diapompholygos*, or some other of a like Nature, sprinkled with the fine Powder of Ceruss, or Lapis Calaminaris. If, on account of the great Weakness of the Patient, or any other Cause, it should be impossible to change the Situation of his Body so often, his Body is to be supported by Girths; or a Ring form'd of Straw, and cover'd with soft Sheeps-skins, is to be laid under his Body in such a manner, as to free the Parts in Danger from all Compression. It cannot, therefore, be too carefully inculcated to Physicians, always to suspect a Gangrene in acute Diseases, when they find their Patients lying long in one Posture, dull, and as it were, half asleep; for frequently, in a few Hours, all the Parts about the *Os Coccygis* become corrupted. By lying long in one Posture, a Gangrene may not only be form'd about this Part, but also about the Scapulæ, the Tubercles of the *Os Ischium*, the large Trochanters of the *Os Femoris*, and about the Spines of the Vertebrae, in highly emaciated Patients. Terrible Effects are often produc'd, whilst, in the Cure of Fractures, Surgeons often despise the Complaints of the Patient, and neglect to change the Posture of the Part. *Hippocrates*, in his Treatise *de Fracturis*, when treating of the Cure of Fractures of the worst Kind, gives the following Caution: "We must remember, says he, that when fractur'd Parts lie long in the same Posture, Excoriations, not to be cur'd without great Difficulty, are produc'd." In this Passage he uses the Word *εξτιμματα*, which signifies Excoriations, Corrosions, or Galls; for, when any Part of the Body begins to be disorder'd by long lying, a red Spot appears; soon after the Epidermis is, as it were, worn away, and at last separated: But, the Unskillful thinking the Disorder slight, a few Hours after, a black Spot appearing indicates a Mortification of the worst Kind.

Hernias of the confin'd and incarcerated Kind: Tho' the Name Hernia is given to widely different Diseases, whilst that, for Instance, in which the Coats surrounding the Testes, or the Scrotum itself, are fill'd with extravasated Lymph, is call'd *Hernia aquosa*; that in which the spermatic Veins are become varicose and tumid, *Hernia varicosa*; and that in which the Testes are become scirrhus, or, as it sometimes happens, surprisingly concreted into a fungous Mass, *Hernia carnosae*; yet, in this Place, such Hernias are only understood, as are form'd by the Parts contain'd in the Abdomen descending in consequence of a preternatural Dilatation, or a Rupture of the Peritonæum. Hernias may happen in all the Parts of the Abdomen, and other Parts besides the Intestines and Omentum may, sometimes, slip out of the Cavity of the Abdomen; but the Hernias which happen most frequently, are those form'd by the Descent of these thro' the dilated Peritonæum at the Navel, or thro' the Rings of the abdominal Muscles in the Groin, in which Cases they are call'd umbilical and inguinal Hernias; and, when these last fall down into the Scrotum, they are distinguish'd by the Epithet Scrotal; but if they fall towards the Thighs, which frequently happens in Women, they are call'd *Herniæ Femorales*. Now, if the dilated Peritonæum, together with a Part of the Intestine, should slip through the Rings of the abdominal Muscles, 'tis sufficiently obvious, that the doubled Intestine is lodg'd in these Rings, except in rare Cases, where the Part of the Intestine, opposite to the Mesentery, being gradually dilated, passes thro' these Rings, and becomes an Appendix or Sack, which is gradually render'd longer. By the peristaltic Motion, therefore, the Chyle, and other things contain'd in the Cavity of the Intestine, must be forc'd into this Appendix, and frequently cannot return from it, whilst the Intestine is compress'd by the Rings of the abdominal Muscles. The same Effect may be produc'd by Flatulences distending the prolaps'd Intestine. Such a Hernia is call'd a confin'd or incarcerated Hernia, because neither the prolaps'd Intestine, nor the Substances contain'd in its Cavity, can return into the Abdomen. In this Case, violent Pains are excited, the peristaltic Motion is disturb'd, Vomitings and Hiccup happen, and, frequently, in a few Hours, the strangulated Intestine becomes gangrenous; and, which is still more surprising, the soundest and most robust Men are often suddenly cut off by this means; for, after the most racking Torments, all Pain suddenly ceases, and the Patient, when he thinks himself past Danger, dies unexpectedly. But these fallacious Periods of Respite will not easily impose on a skillful Physician or Surgeon, since the Coldness of the Extremities, the cadaverous Appearance of the Countenance, the cold Sweats, and frequently the livid Colour of the Intestine shining thro' the Skin, are sufficient Proofs, that Death is not far off. From the Knowledge we have hitherto acquir'd of the Structure of the human Body, I think we cannot assign satisfactory Reasons, why an incarcerated Hernia should be so suddenly and frequently succeeded by Death;

Death; tho' we know, from medicinal and chyrurgical Observations, that the abdominal Nerves have a surprizing Influence over the vital Functions. Thus *Ruyfch* gives us an Account of a Case, in which a Wound of the Abdomen, after violent Pains, prov'd mortal in a few Days; though, upon opening the Body, there was no considerable Injury observ'd to be done to any other Part than the Mesentery. 'Tis, however, certain from the Histories of Wounds of the Abdomen given us by the best Authors, that large Portions of the Intestines may be either cut off, or spontaneously separated, without destroying the Life of the Patient. 'Tis, also, certain, that the lacerated Intestines may be sew'd together; and that the Mesentery may, by passing a Thread thro' it, be brought to the Aperture of the abdominal Wound, that the two Extremities of the Intestine may be brought into Contact, and grow together. In such a Case, when a Gangrene is dreaded from an incarcerated Hernia, the Patient is to be so weaken'd by liberal Venesection, that the Inflammation may be depriv'd of too strong a vital Motion: Then let Narcotics be exhibited in small Doses at a time, but let them be repeated every eight Hours, till the Patient is reliev'd, and a Respite procur'd: Let the Hernia, in the mean time, be fomented with the most emollient Fomentations. Let Clysters prepar'd of the like Materials be injected each Hour, and let the Reduction be attempted; but, if it cannot be reduc'd by these means, the only remaining Step to be taken is, to make an Incision thro' all the abdominal Integuments and Peritonæum, in order to set the strangulated Intestine at Liberty, and return it into the Cavity of the Abdomen. But, when a Gangrene has already seiz'd an incarcerated Hernia, Death generally soon ensues; or, if the Patient should escape, the corrupted Part of the Intestine being separated, the Extremity of the remaining sound Part is to be fasten'd to the Aperture, lest the Fæces should fall down into the Cavity of the Abdomen; and in this Case there remains an artificial Anus in this Place, during the Remainder of the Patient's Life, unless, which rarely happens, the Extremities of the Intestines should again so unite, as to make the intestinal Tube one continued Passage from the Stomach to the Anus.

Secondly, Such Things as render the Fluids so acrid, as to corrode and destroy the Vessels, may cause a Gangrene; such as the long Stagnation of a pent-up and warm Humour, whence arise Acrimony and Corrosion: Hence Blood in an Aneurism, Pus in an Abscess, Water in the Cranium, the Thorax, the Abdomen, or the Scrotum; Contusions, the Fluids discharg'd in wounded Parts; bad, morbid, acrid, and totally peccant Humours perpetually brought to the Parts, such as Lymph long flowing about tendinous Parts, the Ichor of a Cancer, the Matter of a Dysentery, or Dropsy; the Afflux of a febrile pestilential, variolous, or scorbutic Matter to any fleshy Part, especially to the Gums.

The human Blood, and all the Humours secreted from it, except the Bile and Urine, in which, by Stagnation, Acrimony is either produc'd, or, at least, much augmented, are in a State of Health of so mild a Nature, as to produce no Pain when dropt into the Eye, or a recent Wound. This Condition of the Humours was requisite, that they might pass with a sufficiently rapid Motion thro' the tender Vessels. If, therefore, by whatever Cause, the Fluids should become acrimonious, the Vessels will be destroy'd, the vital Influx and Efflux of the Humours prevented, and, consequently, a Gangrene form'd. Hence, under the Article INFLAMMATIO, the Acrimony of the Humours is justly class'd among the Causes which make an Inflammation tend to a Gangrene. The principal Causes of such an Acrimony in the human Fluids are these:

Stagnation: The human Fluids, by means of Rest and Heat alone, spontaneously tend to Putrefaction in the soundest Bodies; the Aliments, also, tho' they have naturally no Tendency to any Degree of Putrefaction, become putrid in twenty-four Hours. A sound Man, when drown'd, becomes totally putrify'd in a few Days, only by the Stagnation of the Juices, and the Heat of the Atmosphere. This Tendency to Putrefaction in our Humours is increas'd in proportion to the Degree of Heat, provided the Heat is not so intense as to dissipate the Fluids, and render all the Parts dry: Thus, in an highly hot and dry Air, the Fleshes of Animals do not soon become putrid, but are sometimes so dry'd, as to be preserv'd entirely from every Degree of Putrefaction; whereas in a hot and moist Air they become putrid very soon. Besides, 'tis observable, that the stagnant Humours of the Body may be preserv'd a long time without Putrefaction, if no Air is admitted to them: For this Reason, the Stagnation of the pent-up and warm Humour must be long continued, before it can produce its Effect.

Blood in an Aneurism: 'Tis certain from undeniable and well-vouch'd Observations, that Blood, becoming stagnant in the Sack form'd by the Dilatation of an Artery, has acquir'd

such a Degree of Acrimony, as not only to corrupt the soft Parts; but, also, totally to destroy the most solid Bones.

Pus in an Abscess: As to the Effects of Pus in an Abscess, see ANSCUSSUS.

Water in the Cranium, Thorax, Abdomen, or Scrotum: 'Tis certain from daily Experience, that Water may be collected in the large and small Cavities of the Body; whether this happens by a Rupture of the lymphatic Vessels discharging their Contents, or in consequence of the bibulous Veins not absorbing the Matter exhal'd from the adjacent Parts into the Cavities: Such a Water may remain for a long time without Corruption, so long as no Air has Access to it; but at last it begins to grow putrify'd, and corrode the Parts it touches. 'Tis certain from Observation, as will afterwards appear, that the Omentum, Liver, and Spleen, have been so long macerated in such a Water, as to be quite decay'd and wasted; and, upon opening the Bodies of those who have dy'd of that Species of Dropsy call'd *Ascites*, an insupportable Stench has been sometimes perceiv'd by all who were present. But in no Case is a Gangrene more frequently produc'd by this Cause, than when that Species of Dropsy call'd *Anasarca* seizes the Thighs and Legs; for as dropsical Patients are always cold, and frequently sit much over the Fire, or keep their Feet warm by means of Stoves, the Epidermis is rais'd in Blisters; and when these break, a large Quantity of Water is discharg'd, and the Patient is greatly reliev'd; but it frequently happens, that a Gangrene is form'd about those Apertures by the Serum, which is now render'd more acrid by an Access of the Air; the Membrana adiposa, which was before highly distended, collapses, becomes flaccid, and is partly corrupted by the Acrimony of the Serum, and partly mortify'd, in consequence of the Weakness of the vital Influx.

As for Contusions, and the Fluids discharg'd in Wounds; see the Article CONTUSIO.

As for an acrid, morbid, and totally peccant Humour acting upon the Parts; that sound and mild Humours may become acrid by Stagnation, is obvious from what has been already said; but it sometimes happens, that the Blood, and Fluids secreted from it, become acrimonious, tho' they circulate in a natural and legitimate Manner. 'Tis true, there is rarely or never a great Degree of Acrimony in the Blood itself, otherwise the tender Vessels would soon be destroy'd. Sometimes, however, there is a certain Degree of Acrimony in it, which does not produce any sensible Effects so long as it is mix'd with the whole Mass of Blood; but, when it is secreted from it, and collected in particular Parts of the Body, it often produces the most terrible Effects: Thus, for Instance, so long as the Taint of a Venereal Lues remains mix'd with the circulating Humours, it scarcely gives any Proofs of its Existence in the Body; but, when this latent Poison is deposited on some Parts, it corrodes them so violently, that the hardest Bones are not Proof against its virulent Quality. If, therefore, any Matter of an acrid and morbid Quality lodg'd in the Blood is deposited in particular Parts of the Body; or, if the Humours secreted from the Blood being more acrid than usual, act for a considerable time upon any Part, 'tis obvious that the Vessels may be corroded and destroy'd by these Means; and, consequently, the vital Influx and Efflux of the Humours will be obstructed; that is, a Gangrene will be form'd.

As for Lymph acting for a long time upon tendinous Parts; 'tis shewn under the Article VULNUS, that in Cases where the tense or tendinous Nerves are only partially cut, there often ensues a large Evacuation of a thin and acrid Serum; 'tis, also, there observ'd, that in such Cases a benign Suppuration never happens, but that sinuous Collections of such an ichorous Matter so corrupt the Fat lying between the Muscles, that, becoming gangrenous, it often comes away in large Portions; and that the pinguedinous *Vagina* of the Tendons are destroy'd by this Means: Hence a future Immobility of the Muscles is produc'd, and the Use of the Member frequently destroy'd. *Celsus*, in the twenty-sixth Chapter of his fifth Book, calls this Matter an Ichor; for, says he, "A thin whitish Ichor is discharg'd from malignant Ulcers, especially when an Injury done to a Nerve is succeeded by an Inflammation; whereas the *Melicera* is thicker, more glutinous, whitish, and resembling white Honey. This Species of Matter is, also, discharg'd from malignant Ulcers, when the Nerves about the Articulations are injur'd; and this happens in no Part so frequently as in the Knees." But because Wounds about the Joints are accompany'd with a Discharge of such an Ichor, and which is often succeeded by an incurable Immobility of the Joint, *Hildanus*, in the third Chapter of his *Treatise de Ichore & Melicera*, has given this Disorder the Name of *Hydrarthron*: And as in this Disorder, the Patients perceive a burning Pain, they generally ascribe this Symptom to the Acrimony of the discharg'd Lymph; tho', perhaps, this intense Pain arises from the slow Dilaceration of the nervous or tendinous Fibres. 'Tis, however, certain from many well-vouch'd Observations, that after a long-continued Discharge of such

such a Lymph about tendinous Parts, a Gangrene almost always ensues; whether this happens on account of the Acrimony of the Lymph; or whether, because the Blood, when depriv'd of this diluting Vehicle, produces obstinate Inflammations.

As for the Ichor of a Cancer; in this terrible Disorder the Humours discharg'd are often so highly acrimonious, that, like Aqua-fortis, they not only burn the Linen Cloths apply'd, but also deeply corrode the adjacent Skin over which they run: But these acrimonious Humours have not only been found in the external, but also the internal Parts of Cancers; whence 'tis sufficiently obvious, what terrible Evils must be produc'd, when such virulent Humours prey upon the internal Parts of the Body.

As for the Matter of a Dysentery; if the virulent Matter, for Instance, of a cancerous Liver, or Pancreas, falling into the Intestines, excites a continual Tenesmus, accompanied with violent Gripes, it is sufficiently obvious, that, the Intestines being, by this means, corroded, a Gangrene may be produc'd. When the black Bile becomes turgid by the Heat of the Atmosphere, the Motion of the Body, or any other Cause, atrabilarious Dysenteries, accompanied with intolerable Pain, are produc'd, and, soon after, succeeded by a Gangrene of the Intestines, and at last a gentle Death, without any Pain.

As for the Water of a Dropsy; we have already observ'd, that the Serum of dropical Patients is sometimes totally evacuated by the Apertures casually or artificially made in their Legs; but, that, during this Discharge, the Parts adjacent to the Apertures are often corrupted. Now it is certain, from medicinal Observations, that the same Serum is absorb'd by the Veins, mix'd with the circulating Humours, and discharg'd by Stool and Urine. Thus *Hippocrates*, in his *Coac. Prænot.* informs us, "that dropical Patients are reliev'd by a Discharge of the Water from the Veins, by Stool and Urine." Now if, by a long Confinement and Stagnation, these Waters begin to become putrid, before they are absorb'd into the Veins, the Putrefaction will be augmented, whilst they are carried along with the Mass of Blood through the Vessels; and if they should be discharg'd through the mesenteric Vessels into the Cavity of the Intestines, the villous Coat of the Intestines will be macerated and wasted, whilst this putrid Water continually acts upon it. Hence Putrefaction, Gangrene, and often Death, ensue. Hence the general Sense of the above-quoted Passage of the *Coac. Prænot.* is limited by *Hippocrates*, in another Place: "For, says he, when a beginning Dropsy is succeeded by a watery Flux without Crudities, the Disease is determin'd;" for, in this Case, a Putrefaction is not to be dreaded.

As for a febrile Matter; a Fever often so changes and alters the material Cause from which it draws its Origin, or by which it is supported, that the Integrity of all the Functions is restor'd without any sensible Evacuations: Sometimes, also, the peccant Matter, conceal'd in the Body, is so chang'd as to be render'd moveable: But, as this Matter would continue to disturb the Functions, if it was retain'd, it is either eliminated from the Body, or deposited, by way of Abscess, in some particular Parts of it. It is a matter of no Moment, whether what is thus deposited by way of Abscess, existed before the Fever, or whether it was only form'd in the Body during the Time of the Fever; for in both Cases it is call'd febrile Matter. When, therefore, this febrile Matter is deposited, by way of Abscess, in particular Parts of the Body, it not only produces Erysipelas, Phlegmons, and Suppurations, but, sometimes, suffocates, and destroys the Life of a Part: Hence a Gangrene and Sphacelus quickly ensue.

As for a pestilential Matter; all the Authors who have wrote of this terrible Disorder, affirm, that if the virulent Matter was deposited, by way of Abscess, in any Part of the Body, that Part would suddenly be destroy'd; so that, becoming mortified, and adhering to the live Parts, it must be afterwards separated, by a Suppuration happening in the Circumference, or the Parts in which the mortified and sound Flesh are join'd to each other. Pestilential Carbuncles are such Marks on the Surface of the Body, that they appear as if made by Fire. But far more terrible were the Disorders subsequent to that Plague among the *Athenians*, so beautifully describ'd by *Thucydides*, in his second Book of the *Peloponnesian War*, and with which he himself was afflicted; for, all on a sudden, the soundest Persons were seiz'd with this horrid Lues, accompanied with a Pain of the Head, together with a Redness and Inflammation of the Eyes. Soon after, their Tongue and Fauces became bloody, and their Breath nauseous and fetid. These Symptoms were succeeded by a Sneezing, and intolerable Hoarseness; soon after, the Disease affected their Breast, and was attended with a violent Cough. Then succeeded a Vomiting of Bile, an uneasy Hiccup, and an intolerable internal Heat; externally the Body did not appear very hot, but was redish, or livid, and full of minute Pustules and Ulcers. Thus the Disease seem'd gradually to descend through all the Parts; and those who surviv'd the seventh or ninth Day, the Dis-

ease descending to the Abdomen, died after being weaken'd by a violent Exulceration, and a copious Flux. But if the Fury of the Disease attack'd the Extremities of the Body, in this Case the Patients, indeed, escap'd the greatest Dangers, and preserv'd their Lives; but as they lost their Hands, their Feet, their Eyes, and sometimes their Pudenda, their Lives were more calamitous than Death would have been. *Galen*, also, in the fifth Chapter of his third Book *de Usu Partium*, makes mention of a Plague which seiz'd the Feet.

As for variolous Matter; in the worst Sort of the confluent Kind of the Small-pox, the whole Face is elevated in a gangrenous Blister; and, when the Pellicle is broken, a thin, and, often, an highly fetid Ichor is discharg'd, and the subjacent Skin and Membrana Adiposa are miserably prey'd upon by this gangrenous Matter. And *Van Swieten* informs us, that he has frequently seen, what *Sydenham* before observ'd, that is, Blisters rais'd on the Thighs of such Patients, as large as an Hen's Egg, which, when broken, discharg'd a thin Ichor, or a bloody Sanies, and the subjacent Flesh appeared highly black.

As for an Afflux of scorbutic Humours to any muscular Part, especially the Gums; in a Scurvy, it is pretty surprising, that the Cohesion of the Vessels should be so diminish'd, that they may be broken by the slightest Force. Thus, in Patients labouring under this Disorder, rude Squeezing is always succeeded by an Ecchymosis; since, in consequence of a Rupture of the Vessels, the Blood is discharg'd under the sound Skin. And, even without any external Force, the Vessels being spontaneously ruptur'd by the Motion of the adjacent Muscles, or corroded by the acrid Blood, these scorbutic Spots appear blue, and sometimes black; for, in this Disease, the diminish'd Cohesion of the Vessels is always accompanied by an acrid State of the Blood. It is not, therefore, to be wonder'd at, if, in consequence of a Destruction of the Vessels, an Afflux of scorbutic Matter to any muscular Part, especially to the Gums, should produce a Gangrene. In scorbutic Patients, malignant Ulcers of the Legs are frequently found to become gangrenous, and incurable by the best chosen Remedies. But in no Part are the Signs of a present Scurvy sooner discover'd, no-where does this Disorder more quickly corrupt the Parts, than about the Gums, which, when seiz'd with this Disorder, become hot, painful, or itch, and, upon the slightest Touch, discharge Blood. Then here-and-there appear white Spots, red and inflam'd at the Circumference, which, if neglected, especially in young Persons, often spread, and prey upon all the adjacent Parts, and are accompanied with an intolerable Stench, and a copious Discharge of thin and fetid Saliva from the Mouth. In *Holland* this Disease is call'd the Water-cancer, because, like a Cancer, it corrodes all around it, and is accompanied with a continual Discharge of Saliva. Unless this Disorder is check'd in due time, which is most efficaciously done by Spirit of Sea-salt diluted in Water, as also with other fossil Acids, or with the Brine of Sea-salt, it not only affects the Gums, but also the Cheeks, the Lips, and the Tongue. It also corrupts the Teeth and Jaw-bone, and makes them fall out. The free Access of the Air, the Heat and Moisture of the Place, together with the highly acrid, and often putrid, Lymph acting on the Parts in a malignant Scurvy, greatly augment the Corruption already begun.

Thirdly, Those things which produce a Mortification of the Extremities, such as the languid State of Old-age, great Weakness, violent Contusions of large Nerves, of the Spina Dorsi, of the spinal Marrow, and large nervous Ganglions, will cause a Gangrene.

As a Gangrene is such a Condition of the soft Parts of the Body, as, by a Destruction of the Influx of the vital Humour into the Arteries, and their Efflux by the Veins, tends to a Mortification, it is sufficiently obvious, that this Disorder must be produc'd, when the Causes which move the Humours through the Vessels, become so weak, that they cannot continue this Motion to the Extremities of the Body. But the Force of the Heart filling and dilating the Arteries, together with the Energy of the Arteries, by which they contract themselves, and propel the Blood through their narrowest Parts into the Veins, are the Causes which carry on and finish the Motion of the Blood through the Vessels. But the Return of the venous Blood to the Heart is promoted by the Action of the Muscles adjacent to the Veins: When, therefore, in Old-age, or great Weakness, produc'd by any Cause, the Force of the Heart is so impair'd, that it cannot, by the impel'd Blood, dilate the Arteries to the very Extremities of the Body, this languid State of Old-age begins, and hence a Gangrene of the Extremities arises. Besides, such inflexibility is requisite in the Arteries, that they may yield, and be dilated by the Blood impel'd from the Heart; and, at the same time, such a Strength, that, when the Action of the Heart ceases, they may, by their Elasticity, and the Action of the muscular Fibres, propel the Blood contain'd in their Cavities. Hence it is evident, that the same Effect may be

be produc'd by the opposite Faults of the solid Fibres, and of the Vessels compos'd of them; that is, an Impediment to the equable Motion of the Blood, and Stagnation.

It is shewn, under the Article *FIBRA*, that the Motion of the Humours through the Vessels is hinder'd by too great a Weakness and Laxity of the Fibres; as also, that the same Misfortune may be produc'd by their too great Rigidity.

But, in decrepit Old-age, when many Canals, which, in Youth, were pervious, are concreted, the Vessels become too strong and callous, by which means they resist Dilatation. Hence, at last, the Heart is no longer able to evacuate the Blood contain'd in its Cavities; and is, therefore, oppress'd; and its Motion stoppt.

Another Cause of an incurable Gangrene is, when the Arteries, though the Force of the Heart remains entire, become so rigid, and sometimes bony, that they can neither yield to the Blood impel'd from the Heart, nor contract themselves.

Why Gangrenes should be produc'd by violent Contusions, or other Wounds of large Nerves, nervous Ganglions, the Spina Dorsi, or the spinal Marrow, is shewn under the Article *VULNUS*.

Fourthly, Poisons of a particular and surprizing Quality, may produce Gangrenes.

Besides the Causes of a Gangrene already enumerated, there are still others, which could not be reduc'd to the former Classes; for there are in Nature such Substances, as, being applied to the human Body, infallibly and speedily produce not only the Mortification of the particular Part, but also of the whole Body; though we are ignorant of the real Manner in which they produce their Effects.

We observe, that, in particular Diseases, a Matter of so hostile a Quality to the human Constitution is sometimes form'd, that it forthwith produces a Mortification in the Part where it is deposited. Thus, the Small-pox is sometimes capable of converting the whole Body into a gangrenous Corruption, even in the soundest Habits. Besides, medicinal Observations convince us, that the slightest Bites of venomous Animals are capable of producing a Gangrene, and Sphacelus.

The Signs of a future Gangrene are its preceding Causes, already enumerated.

These have been already consider'd, so that we now come to treat of those Signs by which a present Gangrene is known, and distinguish'd from an Inflammation, which frequently precedes it, as well as from a Sphacelus, which is sometimes subsequent to it.

The Signs of a present Gangrene are, first, A Removal of the Symptoms of Inflammation, without any Correction of the Cause. Secondly, A faint Sensation of the Part. Thirdly, A pale, cineritious, dark, livid, or black Colour. Fourthly, Such a soft and flaccid State of the Part, that it does not rise when compress'd by the Fingers. Fifthly, Pustules, full of a lymphatic, yellowish, or redish Ichor, in the inflam'd Part. Sixthly, When a Gangrene is produc'd by Cold, an Itching, and violent Sense of Puncture, together with an intense Redness, which is soon succeeded by a Blackness, which indicates Mortification.

If those things which have been said concerning the preceding Causes, the Nature, and Seat of a Gangrene, are well understood, it will be no difficult Task to discover, whether a Gangrene is present, or not, by the following Signs.

First, The Symptoms of the Inflammation arise from the Principle of Life forcing the Blood into the obstructed Vessels with great Celerity, as is shewn under the Article *INFLAMMATIO*, where these Symptoms are enumerated. If, therefore, these Symptoms increase every Moment, and, at last, cease all of a sudden, we know that they have not ceas'd in consequence of a Correction of the Cause; that is, a Resolution of the inflammatory Concretion; because this never happens, except when all the Symptoms of the Inflammation are highly gentle. Nor in this Case can there be a Suppuration; because by it the Symptoms of an Inflammation are not destroy'd, but gradually, and not suddenly, chang'd and alleviated. Much less could a Scirrhus be expected in this Case; since in it all the Symptoms are much more slowly chang'd. It, therefore, only remains, that the Inflammation must terminate in a Tendency to a Gangrene, that is, the Death of the Part. But, why, in this State, the Symptoms accompanying an Inflammation should cease, is shewn under the Article *INFLAMMATIO*. When an Inflammation seizes the external Part of the Body, the Change of Colour, and the other Signs of a Gangrene, produc'd by the Inflammation, may be perceiv'd by our Senses. But, when this Disorder seizes the internal Parts, the State of it is to be judg'd of by the Heat, the Pain, the Fever, and the sudden Removal of the Symptoms.

Secondly, As to the languid Sensation of the Part; the inflam'd Part was highly painful, in consequence of the Distraction of the nervous Fibres distributed through the Coats of the distended Vessels. When, therefore, the distending Cause, that is, the vital Influx of the Humours into the Vessels, ceases, the Pain will be remov'd, or, at least, considerably diminish'd; for it sometimes happens, that, when the *Membrana Adiposa* is corrupted by a Gangrene, the Skin is not as yet mortify'd. Hence some Sensation will remain in it, as well as in the subjacent Parts, which, by the Interposition of this mortify'd and insensible Substance, but faintly perceive the Action of external Bodies.

Thirdly, As to the Paleness, or other Variations of the Colour; 'tis shewn under the Article *INFLAMMATIO*, that the inflam'd Part is red, and the Skin shining, in consequence of its Tension. But, as soon as the Motion of the Humours thro' the inflam'd Parts is destroy'd, the florid red Colour begins to be lost, a Paleness ensues, which is succeeded by a cineritious, a dark, or a black Colour; so that, according to the various Colours of the Part affected, there is a different Degree of Corruption, which is always worse, in proportion as it recedes from Paleness, and tends to that Blackness which indicates a Mortification.

Fourthly, As to the Softness and flaccid State of the Part; so long as the Inflammation lasts, there is in the Part a hard and resisting Tumor, which, when press'd, forthwith restores itself; because the Blood, acting on the obstructed Vessels, distends all around them: When, therefore, this Force is remov'd, the Part, being now mortify'd, becomes flaccid; and the *Membrana Adiposa*, before highly distended, appears soft, and retains the Impression of the Fingers: If, in this State, the Part is touch'd, a viscid Matter seems to fluctuate under the Skin, or, at least, a manifest Vacillation of the Parts under the Skin is perceiv'd, which is only owing to the Corruption of the *Membrana Adiposa*, of which large Portions come away, when, by a benign Suppuration, the mortify'd Parts are separated from such as are sound.

Fifthly, As for Pustules on the inflam'd Part; this is generally accounted the pathognomic Sign by which a present Gangrene, in the external Surface of the Body, may be known; for, as is shewn under the Article *INFLAMMATIO*, whilst the Inflammation degenerates into a Gangrene, the Vessels are suddenly ruptur'd, and the Humours discharg'd will be soon corrupted; the Connection between the tender Epidermis, and subjacent Skin, is destroy'd; and the former, by the discharg'd Humours, is rais'd in Pustules, which are turgid with a yellowish, or, sometimes, a redish Ichor, like the Washings of Flesh. But, in the worst Kinds of Gangrenes, which soon tend to a Sphacelus, these Blisters are full of a black Ichor.

Sixthly, As for Gangrenes produc'd by Cold; this peculiar Species of Gangrene is known by distinct Signs in the Northern Climates: When the Winters are severe, miserable Instances of it frequently occur; for the Extremities of the Body, such as the Toes, the Fingers, the Tip of the Nose, and the Lobes of the Ears, are, by the intense Cold, so corrupted with a Gangrene, as to fall off. This Disorder proceeds in the following manner: By the Cold, is first produc'd a Paleness, which is succeeded by a Redness, accompanied with a troublesome pungent Pain, or an uneasy Itching. Then the Redness is increas'd almost to a purple Colour. Then the Part affected becomes black, and, being corrupted with a true Sphacelus, as far as the Bone, at last falls off. But, because a Gangrene, arising from this Cause, soon mortifies the Parts, and requires a widely different Method of Cure from other Gangrenes, we are, therefore, to be highly careful, that no Error be committed with respect to the Diagnostic of this Disorder.

A future Sphacelus is known by the continual Augmentation of the Signs of a present Gangrene.

We have already observ'd, that a Gangrene is generally previous to a Sphacelus, which succeeds it: If, therefore, all the Signs of a present Gangrene, already enumerated, are increas'd, we know that a Sphacelus is to be dreaded; for the gangrenous Parts may, by compressing the subjacent live Parts, suffocate them, or corrupt them by their spreading Putrefaction.

The Signs of a present Sphacelus are, first, A violent previous Gangrene. Secondly, A Cessation of Sensation and Motion; so that the Part, when cut, prick'd, or burnt to the Bone, feels nothing, but remains insensible. Thirdly, A livid, dark, or black Colour. Fourthly, Softness, Flaccidity, Coldness, a Separability of the Skin; at last, Dryness and Hardness. Fifthly, A cadaverous Stench. Sixthly, A mortify'd deep-seated Corruption, preying on all the adjacent Parts, as far as the Bone.

As for a previous Gangrene ; this Sign ought only to awaken the Attention of the Physician or Surgeon ; for a violent Gangrene is not always succeeded by a Sphacelus, which, however, is justly to be dreaded.

As to the Cessation of the Sensation in the Part ; it is frequently no easy Task to determine, whether a Sphacelus is present or not ; for sometimes the Membrana Adiposa, seiz'd with a violent Phlegmon, is distended to an incredible Thickness, even in those Parts where there is no great Quantity of Fat, such as the Back of the Hand, the Fingers, and the upper Part of the Foot. If a Gangrene seizes these Parts, a Knife may be thrust very deep into them without exciting any Sense of Pain. The distended Membrana Adiposa, pent up by the sound Skin, may also so compress the subjacent Parts, as to render their Sensation faint, or scarce any at all, though they are not as yet entirely mortify'd ; and may again revive, when freed from this Compression. Hence we cannot conclude, that a Sphacelus is present, unless we are sure, from the deepest Scarifications and Punctures, that no Degree of Pain is excited ; for, if there are any live Parts under the Membrana Adiposa corrupted by the Gangrene, a Separation of the corrupted Parts may still be expected. Besides, 'tis to be observ'd, that a Power of Motion frequently remains in a Part, though 'tis entirely corrupted by a Sphacelus.

As to the livid, dark, or black Colours ; these are already consider'd.

As to the Softness, Flaccidity, and other Conditions of the Part ; why any Part of the Body, affected with a Gangrene and Sphacelus, should become soft and flaccid, is also already explain'd. But, since Heat is produc'd by the Motion of the Fluids through the Vessels, when this Motion is destroy'd, the Part thus affected must necessarily be reduc'd to the same common Temperature with the circumambient Air ; but then it is said to be cold, because the Heat of a sound Body always exceeds that of the Atmosphere. But, so long as only a Gangrene is present, the subjacent Parts, as yet alive, may, by their Heat, convey a gentle Warmth to the Part affected ; but, when, as deep as the Bone, the vital Influx totally ceases, 'tis obvious, that a Coldness of the Part must be produc'd.

In this Case, the Epidermis is always separated, which is highly tough, and not easily corrupted by Putrefaction. Thus, also, upon Burns, or the Application of Cantharides, the Epidermis remains entire ; but as soon as its Connection with the Skin is destroy'd, it is rais'd in Blisters by the discharg'd Humours : And, even, when any Part of the human Body is macerated in Water, till it becomes putrid, the Epidermis is not corrupted, but separates from the subjacent Parts resolv'd into a putrid Matter.

But though, in a beginning Sphacelus, the Part affected should appear soft and flaccid, yet afterwards, when the moist fluid Parts are dissipated, all the rest are so dry'd and contracted, as to appear very hard ; for the same happens to Parts corrupted by a Sphacelus, which happens to the Flesh of kill'd Animals long suspended in the Air, and which is observ'd by those, who, in order to train up a Breed of fierce Dogs, feed them with the Flesh of Horses ; for, first, this Flesh is reduc'd to a putrid Matter, which afterwards becomes incredibly hard. And, in parch'd and dry old Bodies, a sphacelated Part may, for a great while, be preserv'd without Putrefaction ; but it will be dry.

As for a cadaverous Stench ; this must necessarily happen ; because the sphacelated Part is as much acted upon by the Heat of the common Air, as a Carcase : Hence the like fetid Smell, and Corruption, will be produc'd in both.

As for a mortifying and deep-seated Corruption ; as, in a Carcase, by a spontaneous Principle of Corruption, all the Parts are destroy'd, except the Bones, which have been found to remain for Ages ; so, in a Sphacelus, all the soft Parts, unless dry'd, are converted into a putrid Matter, and separated from the Bone. 'Tis also observable, that, in a Sphacelus, unless a kind of Limit is plac'd, either by Nature or Art, between the mortify'd and live Parts, and unless the soft Parts, by a Chasm form'd at this Boundary, recede from each other, the mortifying Corruption proceeds to prey upon all the adjacent Parts, and that so much the sooner, the more brisk the Principle of Life is. Hence it is, that, in young Bodies, especially when a strong Fever is present, a Sphacelus spreads so soon ; but, in decrepit Old-age, the Disorder is often supported for a long time, provided the Part is preserv'd from Corruption by Antiseptic Medicines ; for the Fluids, propel'd through the Vessels to the Sphacelus, are stop'd, and the corrupted Miasmata are absorb'd by the Veins. Hence the live Part, contiguous to that which is mortify'd, is farther affected. *Celsus*, in the twenty-sixth Chapter of his fifth Book, beautifully describes the Progress of a Gangrene and Sphacelus in the following Words : " In this Species of Ulcer the Flesh is black, or livid, but dry and parch'd, and the external Skin is generally full of blackish Pustules ; then that which is next to it, is pale, or livid, and almost aeruginous, and without Sensation. 'Tis still worse in an Inflammation, since all the Symptoms

" spread at once ; the Ulcer into the pustulous Place ; the Pustules into that which is pale or livid ; the pale or livid Part into that which is inflam'd ; and that which is inflam'd, into that which is sound."

The imminent and speedy Danger of this Disorder requires just Prognostics.

As soon as the Signs of a present Sphacelus appear, after duly weighing all Circumstances, we ought, without Delay, to resolve upon the Measures to be taken in order to preserve the Life of the Patient. If nothing remains but the Extirpation of the mortified Part, that is to be set about with all possible Expedition ; since, in the Space of an Hour or two, the Disorder may spread so far as to admit of no Cure : Frequent Instances of this occur in the Writings of practical Authors.

These just Prognostics are to be taken, first, From a due Consideration of the Age, Temperament, Disorder, and Strength of the Patient. Secondly, From the quick-spreading Nature of the Disease. Thirdly, From a Knowledge of the internal or external Cause. Fourthly, From the Season of the Year. Fifthly, From the Part affected, according as it is more or less necessary to Life ; or according as it is moist, sinuous, or dry.

In order to form a due Prognostic of what is to be either fear'd or expected, the following Circumstances are to be attended to :

The Age of the Patient : As in young Persons the Fluids predominate over the Solids, almost all the Parts are capable of being dissolv'd. Hence it is, that in them the Progress of a Putrefaction, once begun, is often so quick. This is highly obvious in that Gangrene of the Gums by some call'd the *Water-canker*, which, in this Age, soon preys upon all the adjacent Parts. In middle-aged Persons a Gangrene, and Sphacelus, only succeed violent Inflammations, or are sometimes observ'd to happen in acute Fevers. But in Old-age these Misfortunes happen from an Excess of Rest, and a Defect of sufficiently subtil Fluids ; in which Case they are rarely or never cur'd, because the Cause producing them cannot be corrected.

As for the Temperament of the Patient. This is either sound or morbid. Thus, in Persons of a fat Temperament, if a Sphacelus is produc'd, unless, either by Nature or Art, a Stop is put to the spreading Evil, it will soon prey upon all the adjacent Parts. But in Persons of cold Habits, all other Conditions being alike, the Progress of a Gangrene and Sphacelus is observ'd to be slower. But if a morbid Temperament, tending to Putrefaction, predominates, as in a putrid Scurvy arising from a Species of black Bile, the worst Consequences are to be dreaded.

As for the particular Circumstances of the Disorder ; the Prognostics are also to be drawn from them. Thus, for Instance, after a long-continued Dropsy, a Gangrene of the Feet is rarely cur'd. But when, in an acute Disease, the febrile Matter seizes the Extremities, and renders them totally mortified, there is great Hope, that, if the other Signs are salutary, the Patient may escape, though depriv'd of that Member.

As for the Strength of the Patient ; it is carefully to be observ'd, that, after the quickest Motion of the Humours in a burning Fever, and after their Stagnation and Rest, in decrepit Old-age, a Gangrene and Sphacelus arise. In the former Case, the stronger the vital Powers are, the Disorder will spread the sooner ; but, in the latter, the weaker the vital Principle is, the less Hopes remain. But it is sufficiently obvious, that great Weakness is more to be dreaded, than too quick a Motion of the vital Humours through the Vessels ; since the latter may be diminish'd by proper Remedies. But, to rouse the languid and drooping Strength, especially in decrepit Old-age, is not only a Task far more difficult, but often absolutely impossible.

As for the quick-spreading Nature of the Disorder ; the Progress of an Inflammation, which may be cur'd by a benign Resolution, is never quick, but all the Symptoms are slowly, or scarce at all, augmented. When it tends to a Suppuration, the Heat, the Pain, and Redness, are more quickly increas'd ; but most quickly of all, when it is about to degenerate in a Gangrene ; and, in a Gangrene, the Danger is greater, the more quickly it spreads ; the same, also, holds true in a Sphacelus. Skilful Surgeons, therefore, justly dread this Disorder, when it spreads quickly, especially when the Gangrene arises from internal Causes.

As for a Knowledge of the internal or external Cause ; this is necessary, because it enables us to know, whether such a Cause is capable of being remov'd, or not. Thus, for Instance, if we know, that a scirrhus Tumor so compresses the *Vena cava descendens*, that a Gangrene, in the inferior Extremities, must be produc'd by it, 'tis sufficiently obvious, that the Disorder is incurable. But if, by lying long in Bed, the Weight of the Body has so compress'd the Os Sacrum, and the Os Coccygis,

as to produce a Gangrene, the Progress of the Disorder may be stop'd by changing the Situation of the Body ; and, by proper Remedies, the corrupted Part may be separated from those which are sound.

As for the Season of the Year ; 'tis certain, that a Gangrene may be produc'd by intense Cold, as well as by excessive Heat, whether excited by the Application of Fire, or by a violent Inflammation. The best Seasons, therefore, are those in which there is neither a pinching Cold, nor a scorching Heat ; that is, the Spring, or Autumn. But the Winter-season is highly prejudicial to those Gangrenes produc'd by the Languor of old Age. Whereas the Summer is, in a peculiar manner, hurtful to those Gangrenes which are subsequent to violent Inflammations, or putrid Corruptions of the Humours ; and especially, if an intense Heat is accompanied with a moist State of the Atmosphere.

As for the Part affected ; unless a beginning Gangrene is suddenly check'd, the Solids are destroy'd, the Fluids extravasated, and corrupted ; by which means the Part is so putrefy'd, that its Soundness cannot possibly be restor'd. In this Case, the only remaining Step to be taken is, with all Expedition, to separate the mortify'd from the adjacent live Parts. If the Part affected is of such a Nature, that its Soundness is absolutely requisite to Life, 'tis sufficiently obvious, that no Hopes of Recovery are left : When, for Instance, the *Cerebellum*, the *Medulla oblongata*, or the *Medulla Spinalis*, are corrupted by a Gangrene. Besides, the Cure will be more difficult, when a Gangrene is produc'd in moist Parts of the Body ; for the Putrefaction produc'd, will be much increas'd by the continual Afflux of the Humours. Hence it is, that Gangrenes, in the internal Parts of the Mouth, are with so much Difficulty cur'd, spread so soon, and are accompanied with so intolerable a Stench. But, when the Part affected is sinuous, such as the Genitals in both Sexes, or the *Intestinum Rectum*, 'tis always to be dreaded, lest the mortify'd Part should, with Difficulty, be separated from that which is alive : And tho' this Separation should happen, yet 'tis still to be dreaded, lest the Disorder should degenerate into a fistulous Ulcer. But when the dry and tendinous Extremities of the Body are corrupted by a Gangrene or Sphacelus, in old Persons, or others of a naturally dry Constitution, the like Misfortunes happen ; the Disorder, however, spreads more slowly, nor will so great a Putrefaction ensue. But the Separation of the corrupted Parts from those which are sound and alive, will be more difficult, because this must be carry'd on by the sound Fluids convey'd in a due Quantity, and with a sufficient Impetus, to the Limits of the Gangrene.

From what has been said, some Axioms, which in these Disorders constitute the just Prognostic, may be deduc'd ; and are as follows :

From a Gangrene arises a Sphacelus.

From a Sphacelus, the Mortification of the Part, and the sudden Infection of the adjacent Parts.

A Gangrene is to be reliev'd with all Expedition.

A Sphacelus is to be extirpated with all Expedition.

A Sphacelus arises from a Gangrene. As a Gangrene generally possesses only the *Membrana Adiposa*, it is generally previous to a Sphacelus ; for frequently under the *Membrana Adiposa*, already highly tumid, and corrupted by a Gangrene, the Muscles remain alive, and the Periosteum and Bone sound. But 'tis sufficiently obvious, that a Gangrene may, by its Bulk, so compress the adjacent live Parts, or so affect them by the Propagation of the Disorder, as to render them mortify'd, in which Case a Sphacelus arises from a Gangrene.

From a Sphacelus the Mortification of the Part, and the sudden Infection of the adjacent Parts. So long as there is any Circulation of the Humours thro' the Parts of the affected Member, a Sphacelus is not present, and there still remain some Hopes, that the corrupted Parts may be separated from those which are sound : But, when the Influx and Efflux of the vital Humours is totally destroy'd, the Mortification of the Part is produc'd. But this mortify'd Part adheres to those which are sound ; and frequently the same Causes which produc'd the Sphacelus, continue to destroy the adjacent Parts : And, tho' these Causes should cease, the adjacent Parts will nevertheless be soon infected ; for the Fluids, by reason of the Continuity of the Vessels, will be convey'd to the corrupted Part. Hence they will act on this Putrefaction every Moment, and become stagnant, because, in consequence of the Mortification of the Part, they cannot pass thro' its Vessels. But, by reason of the Continuity of Substance, the Disorder will spread in the solid Parts.

A Gangrene is, with all Expedition, to be reliev'd : For, as *Galen* observes, a Gangrene is in an intermediate State between a violent Inflammation, and a Sphacelus. Since, therefore, a Gangrene tends to a Mortification of the Part, that is, a Sphacelus ; 'tis for this Reason to be remov'd as soon as is possible.

A Sphacelus is to be extirpated with all Expedition : For, by the spreading of the Disorder, the sound and live Parts will be soon affected. Hence, the longer the Extirpation is delay'd,

the more of the Body must of course be lost. It cannot, however, be deny'd, that there are medicinal and surgical Observations, which shew us, that Nature has, in such Cases, perfected a Cure, where Extirpation seem'd absolutely necessary. Many Instances occur, which inform us, that sphacelated Parts have been spontaneously separated from the Sound. But it more frequently happens, that the Sphacelus spreads, and soon proves mortal, unless extirpated in due Time. Since, therefore, a sphacelated Part must be always remov'd, whether by spontaneous Separation, or Extirpation ; and since the Event is highly dubious, when committed to Nature, it appears that this Axiom is true, that a Sphacelus is forthwith to be extirpated. These Cases, however, inform us, that we are not absolutely to despair, even in Instances where the Extirpation cannot be made, either on account of extreme Weakness, or any other Cause. In Cases of this kind, the Strength is to be supported by good Aliments, and Cardiacs. The Part affected is, in the mean time, to be dress'd with such Things as prevent and correct all Putrefaction.

A Gangrene of the Brain, Viscera, and Bladder, is mortal, and, in acute Diseases, proves the Cause of a sudden Death, whilst the larger Parts scarcely appear to be injur'd.

As for a Gangrene of the Brain ; if we consider how soft and tender the Substance of the Brain is, it will appear sufficiently obvious, that a Gangrene produc'd in it must soon reduce it to a putrid Mass. Nor in this Case is a Depuration possible, tho' the mortify'd Parts were separated from the sound, since the hard Cranium must on all Sides prevent the Discharge. Under the Article *CAPUT*, it is shewn, that a great Part of the Brain, especially of its cortical Substance, has sometimes been destroy'd by Wounds, fungous Excrescences, or Suppuration ; Life, in the mean time, being preserv'd, and no Disorder of the Functions of the Brain remaining. 'Tis also shewn, that, by an Evacuation from the Ears or Nose, all those Symptoms have been reliev'd which generally arise from a Discharge of Humours compressing the Brain under the Cranium. But in order to preserve a Man, whose Brain is affected with a Gangrene, a great Number of lucky Circumstances must concur, which rarely happen singly and apart ; for the Gangrene must be stop'd, and the corrupted Parts separated from those which are as yet sound. Then the separated Part must no longer continue to infect the tender Pulp of the Brain, which is contiguous to it : So that it must be evacuated by ways, which the Industry of Anatomists has not as yet discover'd, tho' some Observations seem to evince, that there are such ways, tho' not naturally, yet in certain Diseases. It would be, also, necessary, that the Portion of the Brain, destroy'd by the Gangrene, should be restor'd. If all these Circumstances are duly consider'd, it will sufficiently appear, that no Hope remains, when the Brain, and much more the *Cerebellum*, or *Medulla oblongata*, are seiz'd with a Gangrene.

As for a Gangrene of the Viscera ; since a Gangrene destroys those Parts of the Body on which it seizes, and often spreads itself very quickly, unless seasonably check'd, it is sufficiently obvious, that scarcely any Hopes of a Recovery are left, when this Disorder seizes the Viscera, especially those whose Substance is soft ; such as the Liver and Spleen, which, in a short time, will be reduc'd to a putrid Mass. But if the vital Viscera, lodg'd in the Cavity of the Thorax, are, after violent Inflammations, seiz'd with a Gangrene, Death seems unavoidably to follow, because Life is, as it were, check'd in its first Spring and Source. Thus, *Hildanus*, in the fourth Chapter of his *Treatise de Gangræna & Sphacelo*, informs us, that, in his own Son, who dy'd of a Retention of Urine, he found the Kidneys, and adjacent Parts, affected with a Gangrene. 'Tis, however, certain from Experience and Observation, that every Gangrene of the Viscera does not prove mortal ; for, if the Viscera affected are of a firm and membranous Substance, such as the Intestines, for Instance, and if the Separation of the corrupted gangrenous Part from the live Parts is not only possible, but also its Elimination from the Body, the Patients are often preserv'd. In those Viscera, therefore, whose firm Substance is not easily resolv'd into a putrid Mass, and in which the Elimination of the gangren'd Part may be expected, a Gangrene is highly dangerous, but not always productive of certain and infallible Death.

As for a Gangrene of the Bladder ; violent Inflammations, or other Injuries, of the Bladder, produc'd by Wounds, or Lacerations in rude Extractions of the Stone, are succeeded by Gangrenes, which generally terminate in an unlucky manner ; partly because the acid Urine, always acting on the Bladder thus affected, augments the Putrefaction already form'd ; and partly because the Bladder, being furnish'd with an incredible Number of Nerves, surprisingly affects the Brain, and all the nervous System.

Now, if, in acute Diseases, the Humours render'd immoveable by an inflammatory Density, or by an *Error Locii* lodging in Vessels they ought not to be in, should so obstruct the tender Vessels of the Brain, on which Life and the animal Functions depend,

depend, as totally to destroy the Influx and Efflux of the vital Humours, sudden Death will ensue, nor can any sensible Injury be discover'd, because these minute Parts escape the Cognizance of our Senses. It is a matter of no Moment, whether the Disorder immediately seizes these Parts, or whether the Inflammation has been translated from other Parts of the Body to the Brain.

This is the Reason why *Hippocrates* so carefully collected all the Signs, by which a future Delirium might be prognosticated, in order to prevent a Misfortune, which, when it happens, generally produces certain Death. Thus, in a continued Fever, *Van Swieten* informs us, that he knew a Pain arise in one of the Patient's Legs, which suddenly disappear'd; but, immediately after, a Phrenitis seiz'd the Patient, and carried him off on the third Day. In the Writings of *Hippocrates* there are several Cases, which confirm this. Thus, in the third Book of his *Epidemics*, *Ægrot.* 5. he gives us the Case of *Phalacrus* of *Larisa* [the bald Man] in the following Words: "He was suddenly seized with a Pain in his Right Thigh, which yielded to no Remedies; the first Day an acute burning Fever came on by slow Degrees, by which the Pains were alleviated; the second Day the Pains of his Thigh were still more mitigated; but his Fever increas'd, and he became restless, and could not sleep. His extreme Parts were cold, and he discharg'd a large Quantity of Urine, but not of a laudable Kind. The third Day the Pains of his Thigh entirely ceas'd, but he became delirious with much Restlessness, and Jactation of the Body; and on the fourth Day, about Noon, he died suddenly." We have already observ'd, that the febrile Matter is sometimes deposited on the Extremities of the Body, where it quickly corrupts, not only the soft Parts, but also the Bones. The same is also observ'd in the Plague, as we have already shewn. If, therefore, such a corrupted Matter was deposited about the Heart, the Brain, the Lungs, or the Viscera, 'tis sufficiently obvious, that the Death of the Patient must ensue.

A Gangrene of the internal Part of the Mouth, Lips, Nostrils, and Genitals, is not to be cur'd without great Difficulty.

'Tis certain, from anatomical Observations, that the Skin ceases to cover the Parts about the Lips, and that the Epidermis alone covers the Lips, the internal Surface of the Cheeks, and the other Parts of the Mouth and Fauces. If in these Parts an Inflammation incapable of Resolution should arise, a benign Suppuration rarely follows, but almost always a gangrenous Putrefaction, which preys upon all the adjacent Parts; for the Parts, being expos'd to the Air, and continually moisten'd with a Saliva, which is frequently pretty acrid, are reduced to a highly fetid Substance; and, as in this Case there is generally a great Discharge of the Saliva, and as this Disorder, when form'd, corrodes all the adjacent Parts, unless speedily cur'd, it is for this Reason, by some, call'd the Water-cancer: There arises, first, in the internal Parts of the Mouth, the Lips, the Gums, the Tongue, or the Tonsils, a gentle Redness, accompanied with no great Degree of Pain, but a considerable Heat. Soon after, on the Middle of this Part, appears a white Speck, which often deceives Surgeons into an Opinion, that a Suppuration is about to follow: Then the Pain is increas'd, especially in that Part where the white Speck appears, as also in its Margins, which now appear highly red. Besides, this Part is corroded deep; and the whole white Portion, which is only a gangrenous Eschar, falls off, if the Disorder is slight, and the Patient an Adult; But if the Malignity is great, especially in young Patients, where all the Parts are soft, the Disorder spreads, and the white Spot is diffus'd around on all Sides. The Breath, in the mean time, is highly putrid, and a fetid Saliva continually drivels from the Mouth. In this Case, unless efficacious Medicines are soon apply'd, the Disorder quickly corrodes all round it. As this Distemper frequently arises from a Scurvy, 'tis therefore customary to wash the Mouth with Spirit of Scurvy-grass and *Spiritus Theriacalis*; but these almost always do more Harm than Good. If the Disorder is slight, and only beginning, which may be known, if the Redness, Heat, and Pain, are present, without the fetid Smell, *Sal Ammoniac*, or Nitre, diluted in a large Quantity of Water, with the Addition of a little Vinegar, or Citron-juice, will be of singular Service to wash the Mouth; or Linen Cloths, impregnated in this Preparation, may be gently applied to the Parts affected: But Surgeons have an unaccountable Custom of rubbing the Parts, strongly, with Brushes dipt in these Liquors; but this Practice is always pernicious, since it augments the Pain, and destroys the tender Vessels. But if the Disorder begins to spread, and is accompanied with a fetid Stench, the above-mentioned Remedies will not prove sufficient; for, in this Case, the Putrefaction must be subdued by Spirit of Sea-salt: Let twenty Drops of this Spirit be mix'd with half an Ounce of the Honey of Roses, and let the Part affected be frequently every Day anointed with a Pledget dipt in this Preparation. The Quantity of the Spirit of Sea-salt may be increas'd, if the Putrefaction is very great;

and, in desperate Cases, *Van Swieten* informs us, that he has applied this Spirit alone, with excellent Success; for, says he, the Progress of the Gangrene was immediately stop'd by it; and, soon after, the gangrenous Eschar was separated from the live Parts. He also says, That Medicine never frustrated his Hopes, unless when, the Gums being entirely corrupted, the Jaw-bone happens to be affected; for then, he says, it was not in his Power to prevent its becoming carious; but it infallibly eradicates a Gangrene of the soft Parts of the internal Mouth.

When this Disorder arises in the Lips, there is still an additional Danger; for when the Epidermis, which covers the soft Substance of the Lips, is corroded, the nervous Papillæ are distended to an immense Bulk, and degenerate into a malignant Cancer; but, if the Membrane surrounding the internal Nostrils is corrupted, the Bones become bare, in which, as they are highly tender, no Exfoliation can be expected; but they always become carious, and fall away: 'Tis therefore obvious, that the Cure of a Gangrene in these Parts must be highly difficult.

As for Gangrenes of the Genitals; these Parts are of a surprisingly cellular Structure, and even in sound Bodies afford a Smell somewhat putrid, because they are adjacent to the Bladder and Anus, by which Nature eliminates the corrupted Matter lodg'd in the Habit. Hence a Gangrene, in these Parts, must not only spread quickly, but also be cur'd with Difficulty. By means of difficult Births the Pudenda of Women are sometimes so contus'd and lacerated, as to produce a Gangrene, which is not without the greatest Difficulty to be cur'd; but this Case, however deplorable, is not altogether desperate.

A Sphacelus of the extreme and tendinous Parts is mortal in Old-age.

These Gangrenes, incident to old Age, generally arise from such Causes as admit of no Cure; for they generally draw their Origins from an excessive Rigidity of the Vessels, or from an impair'd and diminish'd Strength of the Heart. In this Case, therefore, no Separation of the corrupted Part is to be expected, since it depends on the brisk Motion of the sound Humours through Vessels possess'd of a due Degree of Flexibility: Nor will the Extirpation of the Part affected be of any Service; for the Disorder will return upon the mutilated Part. The only Method to be taken is, to dress the Part affected with such Substances as are used in embalming, for preserving the Bodies of the Dead from Putrefaction. By this means mortified Parts, in old Persons, may be kept from conveying the Contagion to those which are sound, for several Months. A purple or livid Spot generally appears on the Toes first; and, unless this is dress'd in the manner now mention'd, it soon spreads, and produces a mortal Sphacelus. *Van Swieten* tells us, that he knows no Instances of the Cure of Gangrenes arising spontaneously in the Toes of extremely old Persons; but gives us an Instance of a Man of Seventy, but of a robust Constitution, who was cur'd of a Gangrene spontaneously arising about the internal Malleolus of the Right Foot, by Infusions of Wine, Salt, and recent Rue, by continually fomenting the Part with which, a Separation of the gangrenous and corrupted Part was made, and the Cure succeeded.

In dropical, phthical, and scorbutic Patients, a Gangrene is so highly virulent as to produce the Death of the Patient.

Gangrenes arise in dropical Patients, either because the collected Waters, by their Pressure, suffocate the Parts; or because, being render'd putrid and acrid, they corrode the contiguous Parts. But in either of these Cases there remain no Hopes of the Patient's Recovery; for, if the Water remain, the Disorder will be increased, since the same Causes, which produced it, continue to act. If, on the contrary, the Waters should be evacuated, the flaccid and almost wasted Parts, being no longer sustained by the equable Pressure of the Fluids, will be dissolved, the Vessels ruptured, the Mortification of the Part, and the Death of the Patient, produced.

But in phthical Patients, who already labour under an Atrophy, arising from a purulent Cachexy of the Blood, and who at last generally die of a highly putrid Diarrhoea, 'tis sufficiently obvious, that no Hopes of Recovery are left when a Gangrene seizes any Part of the Body; for the natural Strength is daily impair'd, and the State of all the Humours becomes more and more acrid. Hence neither the Separation of the corrupted Part, nor consequently the Regeneration of what is lost, can be obtain'd.

As for scorbutic Patients, we have already observ'd, that in them the Cohesion of the Vessels was so diminish'd, that they were capable of being ruptur'd by the smallest Force; and that the Fluids were of too acrimonious a Nature; and in a violent Scurvy all the Parts become putrid. Since, therefore, the Acrimony of the Humours, the Rupture of the Vessels, and the Putrefaction of the discharg'd Humours, may produce a Gangrene, this Misfortune must be with the greatest Difficulty cur'd, if

if the Blood is infected with a scorbutic Cacochymy. Hence, in Ulcers of the Legs, so common in the Scurvy, gangrenous Crufts are almost always found, which immediately grow afresh when taken away by the Application of Detergents; and, for this Reason, a good Cicatrix can hardly ever be form'd on Ulcers of this kind.

A Sphacelus ascending to the superior Parts, or producing Watchings, Deliriums, Syncopes, Eructations, Hiccups, Spasms, Pains, cold Sweats, and Drowsiness, presages the Death of the Patient.

Here all these Symptoms are enumerated, which generally accompany a mortal Sphacelus, and that in the same Order in which they usually happen; for, if the Sphacelus is stop'd, either by the spontaneous Workings of Nature, or by the Assistance of Art, a Separation happens between the live and mortified Parts; neither does the Disorder spread any farther. But, when the Disorder proceeds, it is said to ascend to the superior Parts; because, beginning in the last Articulation of the Toe, it gradually ascends through the Foot, the Leg, and at last the Thigh. But, if it begins in the Fingers, it generally ascends through the whole Arm, before it proves mortal. But the Functions of the Brain are always observ'd to be disturb'd when the Sphacelus is about to prove mortal; then the vital Functions begin, also, to be affected, and at last the Patient dies, as it were, in a gentle Sleep. 'Tis, therefore, a bad Sign, if in a Gangrene, or Sphacelus, of the Extremities, the Symptoms of a disturb'd Brain appear. Hence *Hippocrates*, in the seventh Book of his *Epidemics*, tells us, "That a violent Sphacelus is dangerous; but, if it is attended with bilious Vomitings, Anxiety, a Stupor of the Eyes, a Privation of Voice, little speaking, or any Degree of a Delirium, these are Signs, that the Patient is convulsive, and will die." But Watchings are generally the first Sign, which warn the Physician to use all his Endeavours to divert the Force of the Disease from the Head. These Watchings are followed by a Delirium; then the Cerebellum being affected, a Syncope ensues: After this, by the inordinate Motion of the animal Spirits through the abdominal Viscera, Eructations and Hiccups happen, and last of all Spasms and Pains. Then appears that viscid cold Sweat, which stands in Drops on the Skin, and is an infallible Presage of present Death: Of which Sweat *Helmont* said, "That it was not a recrementitious Fluid, but the alimentary Dew resolv'd and subdued by Death." In this Case the Patient, at last, dies, as it were, in a gentle Sleep. According to the various Causes from which a Sphacelus may proceed, so it spreads with a proportionably greater or less Celerity; for, if this Disorder arises purely from the languid State of Old-age, it spreads slowly, and may be sometimes born for several Months before it proves mortal; provided the Part be dress'd with such Substances as prevent Putrefaction. But if in a young and robust Constitution, after a violent Inflammation, a Gangrene should be form'd, and if a Sphacelus should succeed this Gangrene, it quickly ascends to the superior Parts, and in a few Hours becomes incurable. Most of the Symptoms accompanying a mortal Sphacelus are by *Celsus*, in the twenty-sixth Chapter of his fifth Book, beautifully enumerated; for, after having describ'd the Method in which a Gangrene spreads, he adds, "In the mean time an acute Fever, accompanied with an intense Thirst, arises; in some Patients a Delirium also happens. Others, though they retain the full Use of their Reason, can yet hardly express their Sentiments, by reason of a Stammering in their Speech. Then the Stomach begins to be affected, and the Breath becomes fetid. This Disorder, when beginning, admits of a Cure; but, when it is inveterate, it is incurable; and those who labour under it, are seiz'd with a cold Sweat at the time of their Death."

A livid or black Colour, or Dryness, about Ulcers, presage a Gangrene, a Sphacelus, and the Death of the Patient.

Hippocrates, in his Prognostics, where he recounts the most material Circumstances, to which a Physician ought to advert, in order to enable him to prognosticate the Events of Disease, gives us the following Caution: "We must, says he, consider whether the Patient has had an Ulcer before the Disorder commenc'd, or whether the Ulcer was form'd during the Disease; for 'tis a Sign, that the Patient will die, when the Ulcer appears livid and dry, or pale and dry." 'Tis certain, that a laudable Pus is produc'd by the Principle of Life remaining in the Part, and by the Humours convey'd to the Wound, or Ulcer, provided Fluids of a good Quality are in a sufficient Quantity, and with a due Impetus, conveyed to it; but if otherwise, another Fluid is observ'd in the Wound, which degenerates from the Condition of laudable Pus. Hence it is, that, in cacochymic Habits, the Formation of a laudable Pus, and the Consolidation of Ulcers and Wounds, are so highly difficult. But when by a Fault of the Vessels, or Humours, or of both, nothing is conveyed to the Wound, its Surface will be render'd

dry, by the Air, and the Heat of the adjacent Parts; and, before a Cure can be produc'd, the Whole of this dried Part must be separated. The Dryness, therefore, of an Ulcer denotes, that the vital Influx and Efflux of the Humours in the Part are stop'd: But the livid or black Colour denote a legitimate Mortification, and are, therefore, justly accounted among the worst Signs.

The Intentions of Cure in a Gangrene are, first, To confirm the Strength. Secondly, To prevent the Ingress of the putrid Matter into the Veins. And, thirdly, To check and remove the Putrefaction form'd.

Having consider'd the Diagnostics and Prognostics of a Gangrene, we now proceed to consider the Intentions of Cure, and the Medicines proper for removing the Disorder: But, lest a Confusion should arise in this respect, we are to remember, that it is hard to judge of the precise Period of Time which distinguishes a beginning Gangrene, from the Phlegmon which produces it. Since, therefore, a beginning Gangrene approaches very near to a Phlegmon, but differs very much from it, when it is about to degenerate into a Sphacelus, 'tis obvious, that in this intermediate Time there are various Degrees of Malignity in a Gangrene; and that different Methods of Cure are requir'd, according to the different Symptoms; for a beginning Gangrene may sometimes be happily remov'd, by correcting the Juices; but, when the Disorder is confirm'd, the corrupted Part cannot be render'd sound, but must be separated from the live Parts, to which it adheres: The general Intentions of Cure are, therefore, enumerated in this Paragraph.

As for confirming the Strength; so long as laudable Humours move with a due Impetus and Velocity through the Vessels, Health and Strength remain entire; but, when this equable Motion is interrupted, either totally, or in part, the Strength is impair'd either in the whole Body, or, at least, in the Part affected. Hence *Hippocrates*, in the fifth Aphorism of his second Section, asserts, that spontaneous Lassitude, in consequence of which Persons cannot, without Uneasiness, bear their accustom'd Labours, presages Diseases, though the Person seemingly appears to be, as yet, in a pretty good State of Health; for these Lassitudes are frequently observ'd, when the Blood, being render'd less fluid, by an inflammatory Spissitude, cannot, without Difficulty, pass through the narrow Extremities of the Vessels: The Strength will, therefore, be confirm'd by all those things which promote the free Circulation of the Humours through the Vessels, and remove those Impediments which are capable of obstructing it. According to the Diversity of Causes, various Remedies contribute to confirm the Strength.

As for the Ingress of the putrid Matter into the Veins; the Urine naturally washes out of the Body those things, which, approaching to Putrefaction, would prove hurtful, if they were any longer to be carried through the Vessels, with the other Fluids: But, when a perfect Ichury prevents the Secretion and Excretion of the Urine, the retain'd Fluids, becoming acrid and putrid, seem, in a particular manner, to injure the tender Vessels of the Brain; and the Patients labouring under this Disorder, after having suffer'd almost the same Misfortunes with those who die of a Sphacelus, are in like manner cut off in a profound Sleep. 'Tis, therefore, justly to be dreaded, lest a putresc'd Matter, succeeding a Gangrene, and being absorb'd by the contiguous Veins, should prove injurious in the like manner: We are, therefore, to use all our Endeavours to prevent this Accident.

As for removing and correcting the Putrefaction form'd; every Part of the human Body, that is depriv'd of the vital Influx and Efflux of the Humours which it before enjoy'd, by a spontaneous Principle of Change, tends to Putrefaction. 'Tis, therefore, requisite, that a future Putrefaction should be prevented, and a present one so corrected, as that it may not infect the adjacent sound Parts. When the Hands have Access to the Part affected, such Medicines are to be apply'd, as are thought most proper for producing this Effect: But, if the Disorder is lodg'd deep, 'tis sufficiently obvious, that the Cure must be difficult.

The Strength is confirm'd, first, By such things as contribute to destroy the internal Cause producing the Gangrene, rouse the Spirits, and preserve the Circulation of the Fluids, at the same time having due Regard not only to the Age, the Sex, and the Temperament of the Patient; but also to the State of the Weather: These are, therefore, to be either of the refrigerating, or heating Kind, according as the particular Circumstances of the Patient shall require. Secondly, By Aliments, and Drink of an analeptic Nature. Thirdly, By Epithems, as toasted Bread, impregnated with Medicines which resist the internal Cause, excite the Spirits, and preserve the Circulation of the Fluids, applied to the Veins, or about the Nostrils.

As for those Medicines which destroy the internal Cause; in order to answer this Intention, we must necessarily pay a due Regard to the Nature of the Cause which produc'd the Gangrene.

grene. But all these Causes are already enumerated, and reduc'd to their respective Classes: Thus, for Instance, if a putrid Scurvy affects the Blood with a violent Cacoehymy, those Things which resist such a Putrefaction will be of Service to confirm the Strength, such as *Rhenish* Wine, and the Juices of Citrons and Oranges; and the poorer Class of People may use Butter-milk, or its Serum, boil'd with a little Mace, or Nutmeg. As all Gangrenes, though arising from different Causes, always produce a Putrefaction, it is obvious, that the Use of these Acids contributes very much to the Cure of such Disorders.

Boerhaave, in his *Materia Medica*, recommends the following exciting Spirit to be us'd in a Gangrene proceeding from a hot Cause, or an alkaline Temperament:

Take of the express'd Juice of Citrons, two Ounces; of the Juice of Oranges, one Ounce; of the recent Syrup of Mulberries, two Ounces; of Water distil'd from the whole Citron, four Ounces; of Baum-water, two Ounces; of Cinnamon-water, one Ounce; and of *Rhenish* Wine, six Ounces; adding Sugar, if there is Necessity for it: Mix these together, and let the Patient drink an Ounce of the Spirit every Hour, or Half-hour.

Or,

Take of the Robs of Currants, and Barberries, each two Ounces; of the Spirit of Salt, half a Dram; of distil'd Baum-water, six Ounces; and of *Rhenish* Wine, ten Ounces: Mix these together, and let the Patient drink an Ounce of the Mixture every Hour.

If the Patient labours under a Gangrene proceeding from a cold Cause, or is of a phlegmatic or acid Temperament, the following Preparation is to be us'd.

Take of the Sal volatile oleosum, three Drams; of the Elixir Proprietatis, prepar'd with Salt of Tartar, two Drams; of distil'd Aqua Vitæ of *Matthioli* [in the *Leyden* Dispensatory], three Ounces; of the distil'd Water of Citron-peel, six Ounces; of the Syrup of the Five aperient Roots, and of *Fernelius's* Syrup of Mugwort, each one Ounce; and of the Confectio Alkermes, two Drams: Mix, and use like the preceding.

As for those Medicines which rouse the Spirits; it is certain, from Experience, that there are in Nature such Substances as, entering into the most subtle Fluids of the human Body, commonly call'd the Spirits, are of singular Efficacy, and capable of disturbing the whole Body in a surprising Manner. This Efficacy, in the mean time, often depends upon Corpuscles, or Effluvia, so subtle and minute, that they not only escape the Notice of our Senses, but even exceed our Imaginations. Thus, *Afa-fetida*, by its Exhalations alone, often checks the inordinate Motions of the Spirits in hysteric Women; and yet, after, during several Months, it has fill'd a pretty large Room with its Effluvia, scarce any sensible Diminution of its Weight appears. On the contrary, the Fragrance of Musk frequently disorders the whole nervous System of delicate Women, as sometimes to throw them into violent Convulsions; and yet Musk does not sensibly lose its Weight, though it be kept for several Years, and imparts an almost incredible Smell to all the adjacent Bodies. There are, in the *Materia Medica*, such Medicines as, only by their Exhalations, rouse the languid Spirits, and, as it were, inspire new Life into the weakest Patients. If an highly fragrant Citron is applied to the Nostrils of a Woman about to fall into a Deliquium, she immediately revives: The same Effect is produc'd by the Fragrance of Vinegar, and of almost all the grateful Aromatics. But those Things, which rouse the languid Spirits, are, in a particular manner, beneficial in a Gangrene and Sphacelus, because nothing more quickly destroys the Strength, even of sound Constitutions, than putrid Effluvia. If, in the Summer-time, the soundest Man happens to be near the Body of a large drown'd Animal, when it is tumid and breaks, he is immediately so affected with the noxious Exhalations, as to fall into a Deliquium; and will, all the remaining Part of the Day, languish under a terrible Nausea. When, in any Disease, the corrupted Bile is lodg'd about the Præcordia, the Patient is observ'd to be highly weak; and, when these Sordes are remov'd, his Strength returns. When, therefore, in a Gangrene, a Putrefaction is either present, or its Formation dreaded, it is obvious, that these fragrant Aromatics, especially when mix'd with Acids, are of singular Service. *Hildanus*, in his *Treatise de Gangrena & Sphacelo*, C. 12. together with other Authors, recommend the bezoardic Powders, prepar'd Pearls, the Bone of a Stag's Heart, and other Medicines of a like Nature. But *Rhenish* Wine, with the Peel and Juice of Citrons, Cinnamon, and Nutmeg, are far more efficacious. And if a violent Fever, or an intense Heat, contraindicate the Use of hot Medicines, Elder-rob, and Rose-

leaves, with Vinegar, will excite the Spirits, and produce a grateful Coolness.

As for those Medicines which preserve the Circulation of the Fluids; as a Gangrene is such a Disposition of the soft Parts, as, after the Abolition of the Influx and Efflux of the vital Humours, tends to produce Death, the Circulation of the Blood thro' the Vessels is, with the utmost Care, to be maintain'd, in order to prevent this. Now the Circulation of the Humours is stop'd, either through a Fault of the Fluids to be transmitted, or of the Vessels transmitting, or a Defect of the Causes producing Motion. All those Substances, then, which dilute and attenuate the Fluids, open the Vessels, and, by their gentle Stimulus, excite the moving Cause, are highly proper in Cases of this Nature. Hence Decoctions of the Roots of Grass, Burdock, and Scorzonera, as also of the aperient Roots, together with Infusions of Sanders and Sassafras, are of singular Service in these Disorders; because, by their diluting, resolvent, aromatic, and stimulating Quality, they answer all these Intentions.

As for the Age of the Patient; quite different Measures are requir'd in decrepit Old-age, where every thing is languid, and the State of the Blood cold and mucous, from those to be taken in a robust young Man. The Bodies of Women are, if all other Circumstances are alike, more lax than those of Men, and easily chang'd by the slightest Causes; and yet they more easily bear the greatest and most sudden Changes: This is sufficiently obvious from the menstrual Discharge, Gestation, the Birth of the Fœtus, the Lochia, and excessive uterine Hæmorrhages. Hence the Female Sex require a different Treatment from Men. A Difference, also, arises from the various Seasons of the Year; for, in the Summer-heats, especially if the Constitution of the Air is moist, all the Parts tend to Putrefaction; whereas in the Winter they may be kept uncorrupted.

As for Substances of the refrigerating Kind; we are first to examine, whether the Patient's Strength is defective, or not. If the Pulse is strong, large, and hard; if there is still a sufficient Degree of Heat in the Extremities of the Body; and if the Urine is red, and of an high Colour; we know that the Tone of the Circulation is sufficiently great, and, therefore, not to be increas'd. But if the Pulse is weak, and a Series of Symptoms, opposite to those already enumerated, present, we may conclude, that the Circulation of the Humours is to be accelerated. We must, also, examine, whether the Fluids tend to a putrid alkaline State; or whether a cold mucous Cacoehymy predominates in the Habit. In the former Case, grateful stimulating Acids are to be exhibited; and, in the latter, volatile oleous Salts, Elixir Proprietatis, and other Medicines of a like Nature. But the Medicines proper in both these Intentions are specified under the Articles ACIDA and ALCAII.

Those who, after the Shocks of violent Disorders, begin to acquire fresh Degrees of Strength, are said to recover: But though, after the Force of the Disease is subdued, Health returns; yet it is necessary, that, by laudable Aliments, those Parts should be restor'd, which were destroy'd by the Shock of the preceding Disease. Now the Weakness of such Patients renders it necessary, that such Aliments and Liquors should be exhibited as contain a sufficient Quantity of Matter for affording a fresh Supply of Chyle and Blood; but, at the same time, these Substances must be of such a Nature, as to require little or no Action at all of the Vessels and Viscera, in order to transform them to the State and Condition of sound and laudable Juices. The Aliments and Liquors possess'd of these Qualities are distinguish'd by the Epithet *analeptic*: With respect to these, see the Article FERRA. But in the Choice of these a due Regard must be had to the Age, the Sex, and the usual Method of Living, of the Patient. And as in a Gangrene a Putrefaction is, for the most part, to be dreaded, the Analeptics for this Purpose are generally prepar'd from acescent Substances, such as milky Decoctions of Bread, Barley, and Oats; or of Veal-broth, with Citron-juice. See the Article FERRA.

As for Epithems of toasted bread; 'tis certain from physiological Observations, that, in the whole external Surface of the human Body, the Mouths of the bibulous Veins are open, and may, consequently, absorb the contiguous Fluids, and mix them with the Blood: Hence 'tis obvious, that, in order to confirm the Strength, such Medicines as are apply'd to the Skin may be of singular Service. If, therefore, those Substances recommended in the Beginning of this Paragraph are apply'd by way of Epithem, they insinuate their most subtle and fragrant Parts into the bibulous Veins, which convey them forthwith along with the venous Blood to the Heart, from which they are, by means of the Arteries, distributed thro' all the Body: Hence a sudden Restoration of Health ensues; since, by the grateful stimulating Particles of these Bodies, which remain unchang'd by the Action of the Viscera, the Spirits are excited, and the Force of the Heart augmented. These Preparations are principally to be apply'd to those Places adjacent to the larger Veins, such as under the Arm-pits, the Flanks, and to the Neck, that the Effluvia absorb'd by the bibulous Veins may be soon

soon convey'd to the larger Veins. These Epithems appear beneficial not only in this respect, but also when apply'd as nearly as possible to some of those Nerves which we know from Experience to have the greatest Influence over the vital Functions of the Body. Of this Kind are the Nerves dispers'd thro' the internal Surface of the Nostrils: Thus a Person so fatigu'd, as to be ready to fall into a Syncope, is forthwith recover'd by the fragrant Smell of Bread, immediately taken from the Oven. The same holds true of almost all Aromatics, whose Fragrance, perceiv'd by the Organs of Smell alone, immediately restores the Strength. Hence similar Preparations are, with great Success, apply'd to the Region of the Stomach, near the large cardiac Nerves. These are also of singular Service, when apply'd to the Navel. Medicinal Observations sufficiently prove, that Remedies, apply'd externally to these Parts, are sometimes incredibly efficacious. But, in order to confirm the Strength, such an Application of these Epithems is requisite, as that the Heat of the Body may not dissipate their subtle Fragrance externally. For this Reason Bread, so toasted as to become highly bibulous, is to be immers'd with such an Epithem, and apply'd to the naked Skin; then it is to be cover'd with a Sheep's or Swine's Bladder, as soft as can possibly be found, previously anointed with Oil, and secur'd by proper Bandage. Thus, in order to confirm the Strength, in Cases where the Disorder proceeds from an alkaliescent hot Cause,

Take of *Rhenish* Wine, one Pint; of Cinnamon, Cloves, Leaves of the Macer, and Nutmeg, each two Drams. Boil in a tall glass Phial, plac'd in a Sand-heat; and, with the Decoction, impregnate the toasted Bread.

In Cases proceeding from an acid cold Cause,

Take of Sal volatile oleosum, half an Ounce; of the Spirit of Citron-peel, two Ounces; of the Spirits of Lavender, and Mint, each one Ounce; and of the Spiritus Theriacalis, two Ounces: Mix all together, and immerse the toasted Bread in the Mixture.

The Ingress of the putrid Matter into the Veins is prevented, first, By confirming the Strength, and, consequently, increasing the Motion of the peccant Matter to the exterior Parts. Secondly, By procuring its free Discharge externally: And this Intention is answer'd by Fomentations and Cataplasms, prepar'd of diaphoretic, emollient, and laxative Substances; as also by Scarifications, Cuppings, Leeches, and external Warmth.

The second Intention of Cure, in a Gangrene, is to hinder the Ingress of the putrid Matter into the Veins; for the gangrenous Part either every-where adheres to the sound Vessels, or, at least, is contiguous to them, and is generally dissolv'd gradually into a putrid Gore. Hence the putrid Matter will be easily absorb'd by the Veins, from which terrible Disorders may arise; such as putrid Fevers, Deliriums, and sudden Loss of Strength. But the Absorption of this Matter may be prevented,

First, *By confirming the Strength*: Those Things which render the Circulation of the Humours through the Vessels free and easy, confirm the Strength, as has been already observ'd; and, consequently, the Medicines enumerated above will so augment the vital Force, if languid, as all over the Surface of the Body to discharge, through the exhaling Arteries the recrementitious Matter, which ought naturally to be eliminated through these Emunctories. So long as there is no Obstruction in these minute exhaling Ducts, we observe, that, according as the Impetus and Velocity of the Blood are increas'd, a proportionably larger Quantity of Fluids is discharg'd from them, either by insensible Perspiration, or Sweat. The Reason of this is, because, within the same time, a greater Quantity of Fluids is apply'd to the secretory and excretory Vessels. But whilst these minute exhaling Arteries are, by a greater Momentum of the impel'd Fluids, distended and dilated, the small absorbent Veins, contiguous to these, must of course be render'd narrower, and, consequently, the Ingress of the Fluid to be absorb'd into them, render'd proportionably more difficult. Besides, the Heat, accompanying an increas'd Motion of the Fluids through the Vessels, dissipates the Matter which would have been otherwise absorb'd. In all Diseases, therefore, in which the Circulation of the Humours is increas'd, a Dryness is produc'd, in consequence of the Dissipation of the most subtle Parts; whereas, in languid Disorders, where the Circulation is too slow and weak, the Body becomes turgid by an Accumulation of the Humours. But how much the bibulous Veins, in the Surface of the Body, are capable of absorbing, so long as the vital Force remains weak, is sufficiently obvious from medicinal Observations; for 'tis certain, that the Bodies of dropical Patients, after all the Waters have been eliminated,

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again become tumid in a short time, though they carefully abstain from drinking, and use only the most dry Aliments. Hence Patients of this Kind seem to imbibe the Water, contain'd in the Air, through the bibulous and absorbent Veins. It will, therefore, be of great Use, to render the Circulation somewhat brisker, in order to prevent the Ingress of the putrid gangrenous Matter into the Veins. And if, unfortunately, any of it should enter, it is to be carried off by Urine, or through the Emunctories of the Skin, till the Strength being confirm'd, the Motion of the Humours to the exterior Parts is increas'd.

As for procuring a free Discharge of this Matter externally; in the Cure of Abscesses, 'tis absolutely necessary, that, after the inflammatory crude Matter is matured, it should be convey'd to the exterior Parts of the Body, lest, being absorb'd, it should infect the Blood with a purulent Cacochymy, and give Rise to a great Number of very terrible Disorders. But, in the Cure of a Gangrene, the Conveyance of the Matter to the exterior Parts is still more carefully to be procur'd; because a gangrenous Matter is far more virulent than Pus. But nothing more effectually prevents this Conveyance to the external Parts, and, at the same time, suffocates those which are subjacent, than when the Skin is indurated, and becomes gangrenous, and parch'd like Leather; for if, in this Case, a sufficiently brisk Motion of the Humours remains in the live Parts, every thing will be corrupted under this Skin, which resembles a Crust. It will, therefore, be highly expedient, by Fomentations and Cataplasms, continually to keep the gangrenous Part moist, and so to open all the Pores, that all the live Vessels may perspire freely. Water, and all Remedies, in which that Fluid predominates, excellently answer this Intention: Emollient and laxative Substances are to be added at the same time. But since, in a gangrenous Part, the Circulation of the Humours is defective, and, consequently, the Heat which depends on this Circumstance, external Heat is necessary, lest the Fomentations and Cataplasms apply'd should become cold. This is obtain'd by the Application of Bricks warm'd; which are also of singular Service in alleviating Colic Pains. 'Tis true, by the Heat and Moisture, the Putrefaction is augmented in the Parts already mortify'd; but, at the same time, their Separation from such as are alive, is facilitated. Hence these Remedies are never us'd, except when there are some Hopes of obtaining such a Separation. *Celsus*, in the 26th Chapter of his fifth Book, when treating of the Cure of a Gangrene, gives us the same Caution in the following Words: "So long as the Disorder spreads, no Medicines, which promote the Formation of Pus, are to be us'd; and, therefore, warm Water is to be rejected;" for, so long as the Disorder spreads, the Putrefaction would be augmented by these, and the adjacent Parts more quickly infected. But Fomentations and Cataplasms, intended against Gangrenes, are generally mix'd with such Substances as effectually resist Putrefaction, and, at the same time, by their penetrating aromatic Quality, put the stagnant Fluids into Motion. But, since all these are easily resolv'd in Water, and, at the same time, have so subtle a Fragrance, by which they open all the Vessels, without too great an Increase of the Motion, and as they also generally increase the Evacuation by the cutaneous Pores, they are therefore call'd Diaphoretics. Thus a Fomentation against a Gangrene may be prepar'd in the following manner:

Take of recent Rue, four Handfuls; of Mallow, two Handfuls; of *Alliaria* [Jack by the Hedge], one Handful; and of the Meal of Linseed, one Ounce. When these are boil'd in a close Vessel, with a sufficient Quantity of Water, to four Pints of the Decoction, add two Drams of Venice Soap for a Fomentation, to be apply'd with woolen Cloths.

Or,

Take of the Vinegar of Elder, two Ounces; of Elder-flower-water, ten Ounces; of Sal Ammoniac, two Drams; and of white *French* Wine, six Ounces: Mix for a Fomentation.

A Cataplasm against a Gangrene may be prepar'd in the following manner:

Take of the Flowers of Elder, Melilot, Marshmallows, Chamomile, and Marigolds, each three Ounces. When these are boil'd in Water to a Cataplasm, towards the End, add of the Meal of Linseed, one Ounce; and of the Oil of Linseed, an Ounce and an half.

As for Scarifications; these are of singular Use, if the Membrana Adiposa, distended to a great Thickness with an inflammatory Matter, becomes gangrenous; for, in this Case, the whole Bulk of the corrupted and mortify'd Portion so lies upon the subjacent live Parts, as, by its Compression, to suffocate them; whilst, at the same time, the Fomentations or Cataplasms

Cataplasms apply'd cannot penetrate so far as to prevent the Entrance of the putrid Matter into the Veins. Hence, by means of Scarifications, Emunctories are, as it were, made in the gangrenous Part, through which, in consequence of an increas'd Motion, the corrupted Matter may be expel'd; and those things admitted; which not only correct a present, but also prevent a future, Putrefaction. But these Scarifications ought only to be made in the mortify'd Part, but to penetrate; however, as near as possible, to the live Parts, without hurting them. Thus they may be made without any Pain, and as, by this means, a crude Wound is not made in the live Parts, the Ingress of the putrid Matter into the Veins will not so easily happen, as it would have otherwise done; for we are taught, by the Bites of venomous Animals, how easily the Poison is receiv'd into the Veins in a crude Wound.

As for Cuppings; when the Pressure of the Atmosphere is remov'd from the Part to which the Cupping-glass is applied, the Impetus of the Blood as yet moving through the live Parts, it will distend the Vessels, raise the mortified Portion lying over them, and repel the putrid Matter. Besides, since the adjacent Vessels, being compress'd by the mortified Part, could not be distended by the impel'd Humours, most Part of this Pressure being taken off by the Cupping-glass, the Passage will again become free to the Fluids which ought to move through these Vessels. Thus Life will be restor'd to those Parts, which, in consequence of a destroy'd Influx and Efflux of the Humours, tended to a Mortification. The Efficacy of Cuppings, in order to restore defective Life and Nutrition, is sufficiently obvious from medicinal Observations. Cuppings are also of singular Service, when applied to the live Parts adjacent to a Gangrene, in order to increase, at once, the Impetus and Quantity of the vital Humours convey'd thither; for by this means, as we shall afterwards shew, the Fibres uniting the Gangrene to the Part, will be divided, and a Separation obtain'd.

As for Leeches; these Animals wound the Part of the Body, to which they are applied, with their Mouths, suck out the Blood, and often keep themselves so obstinately fix'd as not to quit their Hold, till, being full of Blood, they can retain it no longer; or till, being sprinkled with Nitre, Salt, or some other such Substance, they drop from the Part to which they adher'd. And, after these Animals are remov'd, the Blood often continues to be discharg'd, especially when they have been applied to the hæmorrhoidal Veins; and that so copiously, that Authors, who have wrote concerning the Use of Leeches, have specified Machines, by which this excessive Discharge may be stop'd. The whole Action of Leeches, therefore, is to wound the Vessel, and, by Sucking, extract the Blood; so that, by diminishing the Resistance, the Blood is convey'd to the Parts in a larger Quantity, and with a greater Impetus. Leeches, therefore, produce the same Effect with Cupping; especially if the Part to which the Glasses are applied, is previously scarified. They are, therefore, principally us'd in Cases where the Patients are afraid of Scarification; or when the Situation of the Part is such, that Cupping-glasses cannot be applied. These Animals will not, however, readily fix on a mortified Portion of the Body, but may be applied hard by the gangrenous Part.

From what has been said, it is obvious, that, in these Cases, such a Method is recommended as the Antients us'd against the Bites of venomous Animals. *Celsus*, in the 27th Chap. of his 5th Book, in Bites of this Kind, recommends Cupping, and an Incision made with a Knife, about the Edges of the Wound, that more of the corrupted and contaminated Blood may be extracted. If Cupping-glasses cannot be had, he advises a Man to suck the Wound; which, he says, may be safely done, provided he has no Ulcer in his Mouth. Then he order'd the bit Patient to be lodg'd in a warm Place, the Wound to be fomented with live Animals, ript up, and applied warm, and then proper Antidotes to be exhibited. And, if these last could not be had, he orders unmix'd Wine, with a little Pepper, to be exhibited, or any other Thing capable of exciting Heat.

A beginning Putrefaction is corrected, first, by removing its sensible Causes.

In this Case nothing general can be determin'd; but it is requisite we should previously investigate the Causes before enumerated, from which the Gangrene, and the subsequent Putrefaction have drawn their Origins. For those Measures, which, in one Case, are highly beneficial, are, in another, highly injurious and destructive. Thus, for Instance, in that Species of Gangrene which is subsequent to great Weakness, or the languid State of Old-age, hot Cardiacs, of a stimulating and rousing Nature, are of the greatest Service: But these very Medicines would be highly prejudicial in Gangrenes arising in hot young Constitutions, after violent Inflammations.

Secondly, By correcting its proximate Cause, which consists in the Stagnation and Heat; first, By guarding the stagnating Fluids against Putrefaction. Secondly, By

fortifying the Solids against the same Misfortune. And, thirdly, By procuring a due Degree of Motion to the corrected stagnant Liquors, through the Vessels thus fortified and secur'd against Putrefaction.

How much Stagnation and Heat contribute to Putrefaction, is sufficiently obvious from Experience. A sound Man may live for eighty Years, without having any Putrefaction form'd in his Body; but the whole Carcase of the most wholesome Youth will become putrid in two Days time, especially if the Atmosphere is intensely hot. Stagnation alone does not produce Putrefaction, or, at least, very slowly; as we observe in the Flesh of kill'd Animals, which, in the Winter-time, may be kept uncorrupted for several Weeks. Not does Heat alone easily produce Corruption, unless Stagnation concur. Rivers, whose Waters flow continually, are pure and limpid, under the most scorching Heat; whereas the Waters of Ponds and Lakes diffuse a disagreeable Stench, during all the Summer. Hence *Galen*, in *Comment. 3. in Lib. 3. Epidem.* justly took notice of this Circumstance, in the following Words: "All Putrefaction seems to be produc'd from a moist and humid Matter, and to have, for its efficient, external, and preternatural Cause, Heat, which operates more powerfully, and augments the Putrefaction, when Immobility or Stagnation concurs with it." That the Putrefaction may, therefore, be check'd and remov'd, it is requisite, the intense Heat should be mitigated, and the stagnant Fluids put in Motion.

As for guarding the stagnant Fluids against a Putrefaction; since, in order to the Cure of a Gangrene, 'tis necessary the stagnant Fluids should be put in Motion, and again circulate through the Vessels, with the other Humours, 'tis sufficiently obvious, that the Physician ought carefully to guard against their Putrefaction; for, if they should be put in Motion, after they are become putrid, they would destroy the tender Vessels, and corrupt the laudable Humours, with which they should be mix'd. 'Tis certain, that the Blood is dissolv'd, and the minute Vessels destroy'd, by putrid Substances; and consequently, that all the Actions of the Solids and Fluids are, by this means, deprav'd; from which numberless Disorders may arise. In case of putrid Scurvies, and where there is a Redundance of black Bile, the corrupted and stagnant Humours cannot, without the greatest Danger, be put in Motion; as we learn from daily Experience.

As for fortifying the Solids against Putrefaction; not only the Humours alone are chang'd and corrupted by Putrefaction, but the solid Parts also lose their Cohesion; so that the Flesh of Animals, in an hot and moist Air, are dissolv'd into an highly fetid Gore. But, according to the various Degrees of Putrefaction, the Cohesion of the solid Parts is more or less chang'd, as is daily observ'd in preparing Aliments; for newly-kill'd Flesh is generally tough, if us'd in this Condition; but, when kept for some Days, loses much of its Toughness. But, when it remains in the open Air, till it acquires the slightest Degree of Putrefaction, it becomes so highly tender as to dissolve almost in the Mouth, whilst it is eaten. Hence *Pliny*, in the fifth Chapter of his twenty-fifth Book, informs us, "that the Gauls, when they went a hunting, ting'd their Arrows with Hellebore, and affirm'd; that, by this means, and making an Incision round the Wound, the Flesh of the Animal kill'd was render'd more tender;" because the poisonous Quality of the Hellebore brought on a beginning Putrefaction in the Flesh.

As for procuring the Motion of the corrected stagnant Fluids thro' the Vessels fortified against Putrefaction; after the two before-mention'd Ends are obtain'd, then the Motion of the Humours may safely be excited; for, if the putrescied stagnant Humours have acquir'd a considerable Acrimony, or if the Cohesion of the Vessels is much weaken'd by the Putrefaction, or if both these Misfortunes should concur, by exciting this Motion the Vessels will be ruptur'd, the Humours discharg'd, the Putrefaction augmented, and, consequently, the Gangrene so far from being cur'd, that it will rather increase, as is obvious from what is said under the Article INFLAMMATIO.

The Fluids are preserv'd from Putrefaction by Applications of Salt, Vinegar, Wine, Spirits of Wine, and Aromatics.

In the *Materia Medica* there are Substances capable of preserving the Parts of Animals from every Degree of Putrefaction; but since, besides this Circumstance, it is necessary the stagnant Fluids, corrected and preserv'd by these Medicines, should afterwards be mov'd through the Vessels duly fortified, it is sufficiently obvious, that these Antiseptics ought to be of such a Nature as neither to destroy those Qualities of the Vessels, nor of the Fluids; which are requisite to this Motion. Hence the Parts ought to be preserv'd, like a Carcase embalm'd; but the Life of the Part must be kept up; and restor'd, if defective. These Intentions are principally obtain'd by the Application of the following Substances.

As for Salt; the Flesh of Animals, which in a few Days becomes putrid, may be kept long uncorrupted, if sprinkled with Sea-salt, or immers'd in its Brine: But 'tis observable, that, by these means, the Flesh is render'd harder. Sea-salt, Sal Gemmæ, Sal Ammoniac, and Nitre, are, for these Purposes, to be dissolv'd in Fomentations, and apply'd to the gangrenous Parts.

As for Vinegar; this Fluid is an excellent Antidote against all Putrefaction; for which Reason it was so much us'd by the ancient Physicians in all putrid Disorders: Even the very Smell of it refreshes Patients labouring under Diseases of this kind. Besides, 'tis certain, from daily Experience, that the Flesh of Animals is as well preserv'd from Putrefaction by Vinegar, as by Salt. Vinegar, also, is attended with this additional Advantage, that it neither greatly indurates the Solids, nor coagulates the Fluids, but rather resolves and attenuates the Blood. The other more drastic Acids, obtain'd by the Force of Fire from fossile Substances, such as the Spirits of Nitre, of Sea-salt, of Sulphur, and of Vitriol, prevent Putrefaction, but at the same time coagulate the Fluids, and contract and indurate the Solids, which they even destroy, if they are intensely strong. Hence 'tis obvious, that Vinegar, an Acid prepar'd by a gentle Fermentation, must be far preferable to them.

As for Wine, and the Spirits of Wine; 'tis sufficiently known, that in Germany the Flesh of Boars, immers'd in Wine, is not only preserv'd from Putrefaction, but also remains tender. Hence 'tis obvious, that there is in Wine an antiseptic Virtue, which excellently answers this Intention. The Spirit of Wine also, and Alcohol prepar'd from it, are efficacious Remedies against all Putrefaction, but, at the same time, they coagulate the Blood and its Serum, corrugate and contract the Vessels, for which Reason they may preserve the mortify'd Part, and keep the Putrefaction from spreading: But Life can never return to those Parts which have been long preserv'd with Alcohol of Wine. Spirit of Wine, therefore, diluted with Water, will be more proper, since, though 'tis weaker, it is yet capable of preserving the Parts from Corruption, and will neither contract the Solids, nor coagulate the Fluids.

As for Aromatics; in Boerhaave's *Materia Medica* there are a great many Aromatics enumerated, which are of such a Quality, that, when sprinkled upon Carcases, they not only preserve them long from Putrefaction, but also prove refreshing by their grateful Odour. Among these, the most extol'd are, Scordium, *Alliaria* [Jack-by-the-Hedge], Rue, Sage, Horehound, Wormwood, and Tansey. Galen, in the twelfth Chapter of his first Book *de Antidotis*, tells us, that Authors of unquestionable Veracity have affirm'd, that after Battles, when the Bodies of the Slain have been for many Days unbury'd, those who fell on Scordium, casually growing on the Field, were much less corrupted than others; and that those Parts of their Bodies, which immediately touch'd this Herb, were absolutely free from Corruption. Hildanus, in his *Observat. Chirurg. Cent. 2. Observant. 94.* bestows the like Virtues on *Alliaria*; and, tho' he prefers Scordium to it, yet he depended so much on its Efficacy in the Cure of a Gangrene and Sphacelus, as also of putrid and sordid Ulcers, that he express'd its Juice in the Spring, and preserv'd it in glass Phials, by pouring Oil on its Surface, that he might not be destitute of so salutary a Remedy in the Winter-time. In all these Plants there is a subtle Fragrance, on which their medicinal Virtues depend; but by long boiling, especially in open Vessels, this Fragrance is dissipated in the Air, and the remaining Decoction is possess'd of scarcely any Virtues at all. 'Tis, therefore, most expedient to infuse these Herbs in close Vessels, with Water almost boiling; and then, expressing the Liquor, to add Wine-vinegar, or Salt. The recent Herbs, also, triturated to a Poultice, with an Addition of Salt and Vinegar, may be apply'd to the gangrenous Parts, by way of Cataplasm. How beneficial these, and other Substances of a like Nature, are, in Disorders of this kind, is obvious from the Article *CONTUSA*. The Salts, the Vinegars, and the Aromatics, proper for these Intentions, are, according to Boerhaave, these following:

Sal Ammoniac, Borax, Sal Gemmæ, Nitre, Sea-salt, Regenerated Salt remaining after the Distillation of Spirit of Sal Ammoniac, Vinegar, Vinegar of Marigolds, distill'd Vinegar, Vinegar of Garden Parrisson, Vinegar of Lavender, Vinegar of Roses, Vinegar of Rue, Elder-vinegar, Vinegar of Squills, and the Acetum Theriacale; Spirit of Nitre, of Salt, of Sulphur by the Bell, and of Vitriol, either simple, or with three times the Quantity of Alcohol; *Rhenish* Wines are, in a particular manner, proper for this Purpose.

The Aromatics answering this Intention are the following: Southernwood, Wormwood, *Alliaria*, Angelica, Balsamita, *Carduus Benedictus*, Lesser Centaury, Germander, *Cretan* Dittany, Herb Robert, Lavender, Marjoram, white Horehound, Myrtle, Origanum, Polium, Pennyroyal, Rosemary, Rue, Savine, Sage, Water Germander, Tansey, Thuya. Thus:

Take of the Leaves of Rue, Water Germander, and Wormwood, each four Ounces; and, of Mint, one Ounce: Boil

in a close Vessel, with a sufficient Quantity of Water and Vinegar; and, to every four Pints of the Decoction, add, of Sal Gemmæ, four Drams; and, of the Spiritus Vini Theriacalis, two Ounces, for a Fomentation. Or, for a Cataplasm,

Take the same Ingredients, boil up to the Consistence of a Cataplasm; adding towards the End, of Sal Ammoniac, four Drams; of the Meal of Linseed two Ounces, and of the Oil of Rue, by Infusion, an Ounce and an half; make into a Cataplasm, at the time of Use, to be sprinkled with a little of the Spiritus Vini Theriacalis, or camphorated Spirit of Wine.

By the same Medicines the Solids are preserv'd untouch'd, and free from Putrefaction.

This is sufficiently obvious; for the Solids are not naturally very subject to Corruption, but only become so, because they are acted upon by the Fluids they contain in their Cavities. Hence, when the Fluids are dissipated by drying, the Parts of Animals are capable of being long preserv'd without Putrefaction.

The stagnant Fluids are put in Motion by diluting them with aqueous Liquors copiously drank, and apply'd; by stimulating the Arteries by such Medicines as are opposite to the Disorder; by putting the Fluids in Motion, by means of Heat, Friction, and cardiac Medicines; and, lastly, by removing the Redundance of the Blood, which distends the Vessels too much, by Venesection.

From the Definition of a Gangrene, 'tis obvious, that the Fluids stagnate in their Vessels in a Part affected with a Gangrene, since the vital Influx of the Humours thro' the Arteries, and their Efflux thro' the Veins, cease. Now, by Stagnation and Rest, 'tis certain, that the Molecules of our Fluids are mutually united to each other, so that, in order to put the stagnant Fluids in Motion, 'tis necessary these conereted Molecules should be so divided, as to be capable of passing thro' the narrow Extremities of the Vessels. Besides, when the Molecules are divided, 'tis requisite a certain Motion should be procur'd to them, which they wanted whilst they were in a State of Stagnation; and, if the Cavities of the transmitting Vessels should happen to be diminish'd by any Cause, this Cause is to be remov'd. All these Ends are obtain'd by the following Means.

As for diluting the Fluids with aqueous Liquors; almost the whole Surface of the Skin is furnish'd with the Mouths of the minute absorbent Veins. Hence, diluting Medicines, apply'd externally to the Part affected, may insinuate themselves into these Mouths, and consequently be mixt with the Blood, and by the common Laws of the animal Economy distributed thro' all the Parts of the Body. Now, 'tis certain, not only, that diluting Medicines are of singular Efficacy in resolving the Concretions of the stagnating Blood, but also that diluent Fomentations, apply'd to the Part affected, are not only beneficial, in so far as they insinuate their diluting aqueous Parts into the absorbent Veins, but also, because, by relaxing all the Vessels, they increase the Quantity and Impetus of the vital Fluid in the Part, and consequently the diluting Liquid mixt with the whole Mass of Blood will be more deriv'd to these Parts. 'Tis also certain, that Diluents, when externally apply'd, may also enter the Extremities of the exhaling Arteries, if the greater Ramifications, from which these minute Arteries are distributed, should be obstructed; for then their last Terminations, being empty, will absorb the contiguous Liquids, just as all small Tubes imbibe Fluids. If, whilst Substances of this kind are apply'd externally, a large Quantity of these Fluids is drank, the Resolution of the conereted Humours will be obtain'd, so far as that End can be answer'd merely by diluting Liquors.

As for stimulating the Arteries by Medicines opposite to the Nature of the Disorder; since, with respect to our Fluids, Water is almost the only diluting Liquor; and since it is of itself languid and inactive, the Motion of the Heart and Arteries is requisite, in order to render it active, and capable of producing the design'd Effect. In the gangrenous Part the Fluids are stagnant. Hence, tho' Diluents should be us'd both internally and externally, yet no good Effect can be produc'd, unless this Motion is excited. Hence, on this Occasion, a pretty brisk Motion in the whole Body, that is, a gentle Fever, is always beneficial. Hence, in Conjunction with Diluents, such Medicines, as by their gentle Stimulus somewhat increase the Motion, are to be exhibited; such as Infusions of Sassafras-wood, the three Sanders, Rue, and *Alliaria*. And, as the spontaneous Corruption of our Humours, whilst they stagnate, always tends to Putrefaction, to these Infusions are to be added the most grateful Acids, and especially the express'd Juices of Vegetables, such as those of Lemons, Oranges, and Currants; or spiritated Acids, such as Wine and Vinegar; all which are so far from coagulating, that they rather attenuate and dilute the Blood,

Blood. According, therefore, as the Danger of a Putrefaction is greater or less, Acids are proportionably more or less to be exhibited, both among Aliments, and by way of Medicine. But when a Gangrene arises from the faint and languid State of Old-age, and when there are as yet no Signs of Putrefaction, volatile oleous Salts, aromatic Elixirs and Tinctures, may be of Service.

As for putting the Humours in Motion by Heat; an equable Heat, diffus'd over all the Parts of the Body, to the very Extremities, always attends a State of Health. As the Powers of Life are either increas'd or diminish'd, the Heat is in like manner proportionably augmented or impair'd. At last, when, in a Carcase, all Principle of Life ceases, Cold is produc'd, and all the Parts are in a State of Rest. But Heat is not only the Sign and Concomitant of Life, but also the latent and languid Principle of Life is, by its means, rous'd, and render'd more active and vigorous. Frogs are not only render'd torpid by the Winter Cold, but often retain'd immovable by being buried in the Middle of the Ice; however, when they are put into a Stove, their Agility returns. The vital Stamen of a Chick, contain'd in the Colliquamentum, remains there inactive, and without Growth, till, by a due Degree of Heat, the latent Principle of Life is rous'd; and, from the Observations of the accurate *Reaumur*, it is sufficiently obvious, that the Life of Insects may be rous'd, depress'd, prolong'd, or shorten'd, at Pleasure, according to the greater or smaller Heat they happen to be expos'd to. Much, therefore, is to be expected from external Heat, in order to put the stagnant Fluids in Motion; provided, at the same time, such Medicines are us'd, as are capable of preventing the Putrefaction, which is otherwise to be dreaded.

As for Frictions; their various Uses, and the Methods in which they excite greater Heat, either in the whole Body, or in any particular Part of it, are specify'd under the Article *FIRRA*. For our present Purpose, 'tis sufficient to observe, that the alternate Compression and Relaxation of the Parts, which happens in all Friction, supplies the natural Action of the Fluids they contain; and, therefore, the stagnant Fluids may be put in Motion by Friction, which, in this Case, is so highly necessary. Frictions will, therefore, be of the greatest Service, when Gangrenes of the Extremities, arising from the weak and languid State of Old-age, are either present or dreaded. But, when Gangrenes are apprehended after violent Inflammations, the softest and most gentle Frictions are only beneficial, since, by rude handling, the Vessels distended by the stagnating Fluids might be ruptur'd.

As for cardiac Medicines; since the Heart is the principal Cause of all those Motions on which the vital Force depends, all Remedies, therefore, which increase these Motions, are call'd Cardiacs, though they do not always act immediately on the Heart itself. These Cardiacs are principally of two Kinds; that is, such as restore a sufficient Quantity of sound Juices, and such as increase their Motion through the Vessels; but 'tis of this latter we here principally speak, since the Intention of Cure is to put the stagnating Fluids in Motion. Wine, the Juices of Oranges and Lemons, and other grateful Acids of a like Nature, are of singular Service in Cases of this Kind, because they prevent the Putrefaction to be dreaded.

As for Venesection; as we have now observ'd, that, in the Cure of a Gangrene, the vital Strength is to be excited, in order to put the stagnating Fluids in Motion, it may possibly seem strange, that we should recommend Venesection on this Occasion, since, by it, the Quantity of the Humours is lessen'd, and the Strength impair'd. But this Evacuation will be beneficial, either when the whole Body is plethoric, or when the Vessels of the affected Part, being fill'd with a stagnant Fluid, are, by the Force and Impetus of the succeeding Blood, too much distended; for a Stoppage of the Circulation, a Rupture of the Vessels, and a Gangrene, are to be dreaded from too great Repletion. The same Misfortunes are also to be dreaded from too violent a Motion of the Blood through the Vessels. Besides, by Venesection, the distending Liquid is diminish'd, and the Elasticity of the Vessels restor'd, which is absolutely necessary to the Motion of the stagnating Fluids.

It may, perhaps, be thought by some, that, by Venesection, the Ingress of the putrid Matter into the emptied Veins is render'd more easy. But this ought not to be admitt'd, unless when there is a pretty violent Fever, by which the Motion to the exterior Parts is render'd brisker, and the Ingress of the putrid Matter into the Veins hinder'd. Besides, there cannot be a great Putrefaction, so long as there are any Hopes, that the stagnant Fluids may again move through the Vessels as yet entire and sound. Hence, though something of this beginning Putrefaction should enter the Veins, it would easily be wash'd out of the Mass of Blood by diluting Liquors liberally drunk, and be eliminated from the Body either by Urine or Sweat.

By these Medicines, soon apply'd, and frequently repeated, a beginning Gangrene is often happily corrected, and successfully remov'd, by a Diaphoresis.

Though a Gangrene seems to be present, yet we ought not to despair, so long as it is not accompanied with those Signs, which indicate the Rupture of the Vessels, and the Effusion of the putrefy'd Humours; for, if all the Medicines before enumerated are soon apply'd, and their Use carefully persisted in, Life often returns into the Part which was thought mortify'd. Nor will it do any Harm, to make a proper Trial of their Efficacy, provided there are but the faintest Hopes left; because these Remedies will often prove effectual in Cases where nothing could be expected but the Separation of the mortify'd from the sound Parts, as we shall afterwards observe. Though, therefore, the Signs of a violent Inflammation are suddenly remov'd, without a Correction of the Cause; though the Colour of the Part, before highly red, begins to be chang'd; and even though some small Pustules, full of a lymphatic Ichor, appear on the Skin, which only indicate, that the tender Vessels, connecting the Skin and Epidermis, are ruptur'd; this Method may, nevertheless, be tried; for we have already observ'd, that it is not always easy to distinguish a violent Inflammation, from the first Beginning of a Gangrene arising from it; because a violent Inflammation tends to a Mortification, and the beginning Gangrene has not as yet destroy'd all Life in the Part. When, therefore, the Disorder consists, as it were, in this Boundary between a Gangrene and an Inflammation, the most efficacious Remedies are to be applied; for, if the same Causes continue to act, the Vessels will soon be destroy'd, and the discharg'd Humours will stagnate, and become putrid: But, when the Vessels are destroy'd, there remain no more Hopes, that the stagnant Humours can again be put in Motion. Under the Article *CONTUSA*, there are some memorable Cases related, which teach us, what unexpected Success has sometimes attended this Method, even in the most desperate Cases.

But, if the Fluids are already putrefy'd, their most moveable Parts exhal'd, and the Vessels destroy'd, the Disorder will not yield to these Remedies, nor will Soundness be restor'd to the corrupted Part; but the adjacent Vessels will be much destroy'd by the mov'd Humours, whilst, at the same time, the live Parts are not capable of exhaling.

Whilst the Physician or Surgeon tries all the Remedies recommended in the two preceding Paragraphs, he ought, every fourth Hour, to inspect the Part affected, if it is subjected to his Senses, in order to discover, whether the Signs of an increas'd or returning Life appear, or whether every Circumstance becomes worse, and the Colour is chang'd into a pale, dark, livid, or black Colour; for then he knows infallibly, that the Part is mortify'd, and the Vessels so destroy'd, that there remains no Hope of restoring a vital Motion in the Part. The stagnant Liquors will, therefore, by a spontaneous Tendency of their Nature, become putrid, the Vessels will be destroy'd, and, as the Air acts on the extravasated Fluids, they will be so much the sooner corrupted. 'Tis shewn, under the Article *ALCALI*, that, by Putrefaction, our Humours are so chang'd, that their aqueous Parts are exhal'd, the native, mild, saponaceous, and sufficiently fix'd Salts become acrid, alkaline, and volatile; and the Oils are so attenuated, as to become fetid and volatile, whilst the remaining Part of the Oil, divested of its most moveable Particles, and united with the more terrestrial and fix'd Portion of the Humours, constitutes a tenacious and viscid Sordes. All these Things happen in a confirm'd Gangrene; and the mortify'd Parts becoming dry, by the Exhalation of the most moveable Portion of the Fluids, form a hard, and, frequently, a coriaceous Covering, which is call'd a gangrenous Crust. Under this Crust, or Eschar, the live Parts remain, as it were, buried. If, in this Case, therefore, by stimulating the Arteries, either by cardiac Medicines, Frictions, or external Heat, the Motion of the Fluids through the live Vessels should be much increas'd, these will be press'd against this hard and impervious Crust, and, by the Attrition, a new Inflammation will be produc'd in them, which soon tends to a Gangrene; so that the Disorder will soon be increas'd to a Sphacelus, whilst all the Parts, as far as the Bone, are perfectly mortify'd; or the putrid Matter, being put in Motion in the *Membrana Adiposa*, will be propagated to the adjacent Parts; and thus the Gangrene will spread.

In this Case, therefore, the whole Intention is, to separate the mortify'd from the live Parts.

For, as the Circulation of the Humours no longer remains in the Part thus affected, so neither can it be restor'd, as is obvious from what has been said. The only thing remaining is, therefore, to remove the mortify'd Part, lest, by its Pressure, it should injure the subjacent live Parts, or, by its Contagion, infect those which are adjacent.

This Separation is always produc'd by the Force of the vital Fluid flowing to the Boundaries of the gangrenous Eschar,

Eschar, suffocated there, and forc'd into a Suppuration; by which means the Fibres connecting the Gangrene to the sound Parts will be divided.

The Manner in which this Separation of the mortified and gangrenous from the live Parts is brought about, is not easy to account for; since the vital Motion of the Humours thro' the Vessel, cannot act upon the mortified Part, because it is absolutely wanting in it; and since, by a spontaneous Principle of Change, the Separation of this mortified Part cannot be obtain'd, because it is never observ'd in a Carcase. It, therefore, only remains, that the live Part, contiguous to the gangrenous Eschar, should separate from it: But, so long as the vital Functions continue brisk and strong, a Redness and Inflammation are always observ'd in that Part where the gangrenous Eschar touches the live Parts; because, in the Boundary between the mortified and live Parts, the Humours convey'd through the live Vessels are stop'd, because they cannot pass through the gangrenous Eschar: But an Inflammation arising, in this Case, cannot be cur'd by Resolution; because the Terminations of the obstructed Vessels cannot be open'd. Hence it will tend either to a Gangrene, or a Suppuration; for, in this Case, a Scirrhus is not to be dreaded. The Surgeon is, therefore, to use all his Endeavours to bring about a Suppuration, which will be obtain'd, if the Conditions requisite for a Suppuration, enumerated under the Article INFLAMMATIO, are either spontaneously present, or brought about by the Assistance of Art. The vital Motion is, therefore, to be so regulated, as that it may be greater than in a State of Health, and yet not too great; a mild Quality is to be procur'd to the Humours, and Putrefaction is to be carefully prevented; for, in this Case, by the continual Action of the vital Humours, propel'd as far as the gangrenous Part, through the live and pervious Vessels, the Sides of the Vessels will be gradually relax'd, and the Cohesion between the live and mortify'd Parts destroy'd. From the Extremities of the live Vessels the Humours will be discharg'd, and converted into Pus, as is shewn under the Article INFLAMMATIO. And as the gangrenous mortified Part, when no longer moisten'd with the vital Fluids, and when the most moveable Parts are dissipated, must necessarily be dried by the Heat of the circumambient Air, and that of the adjacent Parts, it will, of course, be contracted in all its Dimensions; so that it will be the more effectually separated from the live Parts, as soon as the Extremities of the live Vessels begin to be, as it were, dissolv'd, by a Suppuration. In this Case, a Gap is form'd, which most perfectly separates the gangrenous and mortified from the live Parts; and then there is no longer any Fear, lest the Gangrene should spread; for the gangrenous Eschar remains, as it were, like an Island surrounded by the live Parts. But the inferior Part of this gangrenous Eschar generally remains longer fix'd to the live Parts, though in its Circumference it is perfectly free; till at last, the same Causes continuing to act, it is daily more and more contracted, till it falls totally off, and leaves a simple Ulcer. But that a Suppuration is the only Method by which the Parts, so corrupted, that they can no longer obey the Laws of the animal Economy, can be separated from those which are sound and alive, is shewn under the Article VULNUS. They who have imagin'd, that by cutting, burning, and corroding, they could more speedily procure this Separation of the mortified from the live Parts, have certainly err'd, since by all these Methods either some of the mortified Part is left, or, together with it, the live adjacent Parts are destroy'd; for, by touching that Part of the gangrenous Portion, which is next to the live Parts, with Butter of Antimony, or with a caustic Liquor, prepar'd of Quick-silver dissolv'd in Aqua-fortis, and so much extol'd by *Belloste*, we may sometimes hinder the Putrefaction from spreading, and affecting the adjacent Parts; but we can never, by this means, obtain the Separation of the mortified from the sound Part; for, when live Parts are touch'd with these acrid Corrosives, they are forthwith render'd mortified, and must afterwards be separated from the live Parts by a Suppuration. All, therefore, which can be obtain'd by these means is, to place Boundaries, within which the mortified Parts remain; but these Parts are, at the same time, so impregnated with these highly concentrated acid Spirits, as totally to hinder the Progress of the Putrefaction. Thus there is a kind of Boundary made, which cuts off all the Commerce and Communication between the live and the putrid gangrenous Parts. But this Boundary is itself mortified, and must be separated from the live Parts, to which it adheres; and this Separation is only accomplish'd by a Suppuration brought about by Nature, as we have already observ'd.

'Tis certain, from chirurgical Observations, that the Scarification of gangrenous Parts is often of singular Service, since, by this means, the Force of antiseptic Medicines penetrates more deeply, and Putrefaction is the more effectually prevented. 'Tis, at the same time, equally certain, from Experience, that the cutting the gangrenous from the sound Parts, by a Knife, is always an unsafe and dangerous Method: But where gentle Scarifications are us'd, Putrefaction prevented, by proper I-

mentations, and the Business of Separation left to Nature, after the Force of the Disease is subdued, and the Strength restor'd, the Cure almost always proves successful, even in pretty deep Gangrenes. *La Motte* informs us, that he had frequently seen gangrenous Crusts, form'd about the Os Coccygis, and the adjacent Parts, by long lying in Bed, spontaneously separated, in poor Persons, who had no Care taken of them. *Van Swieten* informs us, that he has often seen Instances of the same Kind, though no Scarifications were used, but the Parts only fomented with Wine, Vinegar, and Salt, in order to prevent Putrefaction.

'Tis, therefore, obvious, that the Art of treating a Gangrene must consist, first, In taking the Measures already directed. Secondly, In hastening the Suppuration. And, thirdly, In softening the Eschar.

Since, from what has been said, 'tis obvious, that, by a Suppuration alone, a perfect Separation of the mortified from the live Parts can be produc'd, this Suppuration is carefully to be promoted and accelerated. And, whilst it is expected, and forming, we are to take care, lest too great a Putrefaction should be produc'd, which may either infect the adjacent Parts, or, being absorb'd into the Veins, disorder the whole Body. But of this we have already treated: And as a gangrenous Eschar, after the most fluid Parts are dissipated, sometimes acquires the Rigidity of dry'd Leather, it is obvious, that it must be more easily separated, after 'tis previously soften'd, and render'd moist.

In order to accelerate a Suppuration, a Scarification of the putrid Part, to the very Beginnings of the live Parts, is conducive; for, by this means, the too great Suffocation being diminished, an Abscess is form'd, instead of a spreading Gangrene, by which the Skin, and gangrenous Fat, are, for the most part, separated from the subjacent live Parts.

In some Parts of the Body the Membrana Adiposa, the principal Seat of a Phlegmon and Gangrene, is considerably thick; and, even when it is thin, it is sometimes distended to an incredible Bulk, by stagnating Blood. Now, if a Gangrene seize the Whole of this Mass, the live Muscles and Tendons will remain buried under this mortified Part, which they are not capable of removing. Hence a Suffocation is to be dreaded, and there is great Danger, lest all the Parts should be corrupted, as far as the Bone, and the Gangrene degenerate into a Sphacelus. In order to prevent this, Surgeons generally make Incisions in the gangrenous Part, parallel to each other, and differing in Number and Length, according to the Bulk of the Part affected: Sometimes to these longitudinal Incisions they add transverse ones, which decussate them. The Depth of these Incisions ought to be such, as not to injure the subjacent live Parts, but, at the same time, to divide the mortified, as near as may be, to the sound; for it would be cruel, and often dangerous, to divide the live Parts with the Knife; and the Ingress of the gangrenous and putrid Matter into the Veins would become more easy, by its touching upon such a crude Wound, which, however, is carefully to be guarded against. Hence the Antients order'd Incisions to be made in gangrenous Parts, as far as the live subjacent Parts. Thus *Celsus*, in the 26th Chapter of his fifth Book, when treating of the Cure of a Gangrene, uses the following Words: "Whatever Part is dry, and, in any measure, prejudicial to the adjacent Part, is to have an Incision made in it, as far as the sound Parts." By this means, Vents are, as it were, made, through which the subjacent Vessels may rise, and not only remove the mortified incumbent Parts, but also supply what was corrupted by the Gangrene. The same happens in this Case, which happens in Wounds of the Head, when the Cranium is perforated with small Holes, to different Depths, according to the different Degrees of Corruption; for the subjacent Vessels rise through these Punctures, the Parts of the corrupted Bone are separated, and what was lost is restor'd. Besides, when gangrenous Parts are thus divided, an easier Ingress is procur'd to antiseptic Fomentations, the mortify'd Parts are impregnated with these, and effectually defended from all Degrees of Putrefaction: The Softness of the Eschar may also be more easily obtain'd, whilst Emollients apply'd may insinuate themselves into these Apertures. After these Measures are taken, if the vital Force is strong about all the Circumference of the gangrenous Portion, the live Parts will be inflam'd, and a Suppuration will happen; by means of which the whole mortify'd Part, soften'd and divided by Scarifications, will be gradually separated; and then the Gangrene becomes an Ulcer, but of the fordid Kind, which, however, is daily more and more cleans'd, whilst the Skin and Membrana Adiposa, which are, for the most part, only affected with a Gangrene, wither away, as it were, and are separated from the subjacent live Parts. But, when a Gangrene seizes such Parts as are only cover'd with little Fat, the gangrenous Crust is not so thick as to require these Scarifications, which could not be commodiously made,

without injuring the subjacent live Parts. Thus, when, lying in Bed, Gangrenes arise about the Os Coccygis, and the Os Sacrum, such a gangrenous Crust is rarely found, because these Bones lie almost immediately under the Skin, without the Interposition of any Fat.

But, that the more Blood may be convey'd into these Boundaries, Leeches, Cupping-glasses, and other Remedies of an attracting Nature, often applied, are of Service.

Concerning these we have already spoke; but we must here observe, that they are to be us'd when the Force of the vital Humours is languid; for where there is a violent Fever, it is often more expedient to diminish the Force of the Circulation. Besides, attracting Remedies, applied to these Parts, may be beneficial in so far as they derive the Efficacy of antiseptic and diluting Remedies taken inwardly to these Parts. Mr. *Rusworth*, a celebrated Surgeon of *Northampton*, some Years ago, wrote a Letter to the Company of Surgeons in *London*, concerning the Use of the *Peruvian Bark*, in putting a Stop to a Gangrene and Sphacelus. And, next Year, Mr. *Amyand* inform'd Mr. *Rusworth*, in a Letter, that he had made seven Trials of his Medicine in a Sphacelus, and found it accompanied with Success. Afterwards, other celebrated Surgeons confirm'd the Opinion of Mr. *Rusworth*, and the Value of the Bark, by their Testimonies. In the *Philosophical Transactions*, N. 426. p. 429. 434. there are various Instances, by which it is shewn, that, by the Use of *Peruvian Bark*, Gangrenes and Sphaceluses have been stop'd, and hinder'd from spreading to the adjacent Parts, and the mortified Parts have happily separated from the sound, though there were no Symptoms of an intermittent Fever through the whole Course of the Disorder. There are, also, Instances, in which every thing succeeded well, so long as this Medicine was us'd; and the Symptoms increas'd upon giving it over, whilst, upon resuming the Use of it, the Events have been observ'd to be successful and happy. There are, also, various Operations in the third Volume of the *Medical Essays*, publish'd at *Edinburgh*, which prove the Efficacy of the *Peruvian Bark*, in curing Gangrenes and Sphaceluses. There are, also, some Instances of its having fail'd of Success.

The Part in which the Incisions are made is to be fomented with warm Liquors, proper for resisting Putrefaction; and the Eschar is to be diminish'd by Emollients.

In order to produce a Separation of the mortified gangrenous Parts from those which are alive and sound, it is expedient so to soften and moisten the gangrenous Crust, that it may almost dissolve. But, whilst this Intention is carrying on, a Putrefaction is almost always to be dreaded. Emollients are, therefore, to be applied; but they are to be previously mix'd with Antiseptics. Whilst, therefore, a gangrenous Part is fomented with Alcohol of Wine, or other Liquors of a like Nature, Putrefaction is prevented; but, at the same time, all the Parts are indurated. And when, after pretty deep Incisions are made, these are capable of penetrating to the subjacent live Parts, they mortify them, and thus produce new mortified Crusts. But, when these Parts are fomented with Emollients, the small mortified Portion, which covers the scarified live Parts, is so relax'd, as to be almost dissolv'd, so that it scarce any longer adheres to the live Vessels. Hence it will easily be separated by the Force of the vital Humour, carried to the Part through the live subjacent Vessels. In *Boerhaave's Materia Medica*, there is a Liquor recommended, which powerfully resists Putrefaction; as also a Cataplasim proper for softening gangrenous Eschars, which consists partly of highly emollient, and partly of aromatic antiseptic Herbs. Before the Application of such Cataplasms, Surgeons generally sprinkle them with antiseptic Liquors. Thus the Effects of these two Remedies are happily join'd. Both these Intentions are excellently answer'd by a simple Cataplasim of the Meals of Oats or Rye, which soon become acedent, boil'd in Butter-milk, adding, towards the End, recent Rue triturated, a small Quantity of Sal Ammoniac, and some of the Oil of Linseed, or any other proper Oil, lest the Cataplasim should become dry too soon.

The Liquor above-mention'd, proper for resisting Putrefaction in a Gangrene, is thus prepar'd:

Take of the Vinegar of Taragon, six Ounces; of the Vinegar of Rotes, two Ounces; of the Spiritus Vini Theriacalis, four Ounces; of Sea salt, one Ounce; and of a Decoction of Scordium, prepar'd with Water, twelve Ounces: Mix all together.

The Cataplasim for softening gangrenous Parts is thus prepar'd:

Take of the Leaves of Scordium, two Handfuls; of Mal-low-leaves, one Handful; of the Flowers of Lavender, and Marshmallows, each one Ounce: Boil these to a Cataplasim, with Vinegar; and then add, of the Meal of

Linseed, three Ounces; of the Oil of Linseed, one Ounce; and of Sal Ammoniac, one Dram.

The *Unguentum Aureum*, and *Basilicon*, are, in this Case, also, recommended.

The pendulous, mortified, disengag'd, and soften'd Parts of a gangrenous Eschar, are to be remov'd by the Forceps or Scissars.

In the Course of this Disorder, the gangrenous Crusts, especially when divided into various Parts by Scarification, begin to be disengag'd and separated, not only from each other, but also from the live Parts; and then, cohering only in a few Points, they hang down. In this State of things, Surgeons, too fond of cleansing the gangrenous Part, pull away these gangrenous Shreds with the Forceps, by which means they not only often create unnecessary Pain, but also excite a Convulsion and Tetanus about the tendinous Parts, whilst they irritate and draw the Tendons, which, in this Case, are often uncover'd, and depriv'd of their mucous Vaginae, as may be seen in the Article *Uterus*. How cruel and hurtful it is to cut off the mortified Parts, as yet not soften'd, but adhering to those which are sound, we have already shewn. Nature, who, in the Cure of Diseases, is so often sufficient for bringing about her own Measures, will accomplish that Separation of the mortified from the sound Parts, which she has already begun. All that Art can do, is, by a laudable Regimen, and proper Remedies, to convey a sufficient Quantity of good Humours, with a due Force, to the Part, which, by their continual Impulse, may throw off these gangrenous Crusts, previously relax'd by emollient Fomentations and Cataplasms. The Putrefaction, in the mean time to be dreaded, is to be prevented by antiseptic Medicines. But whatever is totally disengag'd from its Cohesion with the sound Parts, is to be remov'd, lest, being left, it should become putrid, and injure the subjacent tender Vessels. If pendulous gangrenous Shreds, in some measure, still adhere to the live Parts, all that Part, which is disengag'd, is to be cut off with a Pair of Scissars; but that which still adheres, is to be left, since, by pulling it away, a crude Wound is form'd, which discharges Blood, and may be unhappily affected by the gangrenous Matter; for the gangrenous Putrefaction may be easily absorb'd by such a crude Wound. It is, therefore, a general Rule, to be observ'd in this Case, that nothing is to be taken away, in consequence of which, either Pain is produc'd, or Blood discharg'd.

Warm Cataplasms, which act by a continual and uninterrupted Heat, and which consist of emollient, diaphoretic, and anodyne Substances, are to be kept continually applied to the whole Part affected.

Since, in a gangrenous Part, there is no Motion of the vital Humours through the Vessels; the Heat depending on this Circumstance must, of course, be wanting. This Defect is, therefore, to be supplied by external Heat. But it is obvious, that this is only necessary when the gangrenous Crusts are thick; for, when they are thin, the Heat of the subjacent Parts is sufficient. For this Purpose, therefore, Cataplasms are preferable to Fomentations, because they retain the Heat longer, do not become dry so soon, and, consequently, need not be renew'd so often. By means of the heated Bricks before-mention'd, the Heat of these Cataplasms may be preserv'd. But, in these Cataplasms, as we have already observ'd, an emollient Quality is not only requir'd, but they must also contain Ingredients capable of preventing Putrefaction, and gently stimulating the live Vessels by their grateful aromatic Particles. These Applications, therefore, must be various, according to the different Conditions of the Part affected; for, if it is excessively dry, emollient and moistening Substances are most proper; but, if the Signs of a violent Putrefaction are present, a large Proportion of antiseptic Ingredients is necessary. If Paleness, Cold, and Littlefiness, are observ'd, either in the whole Body, or in the Part affected, a large Quantity of stimulating Aromatics is proper. On the contrary, if there is a violent Inflammation about the Boundaries of the Gangrene, Elder-flowers, Houf-leek, and other refrigerating Substances, are most beneficial. To these Cataplasms are generally added some anodyne Ingredients, which obtund and alleviate the Pain, whilst the gangrenous Eschar is separating from the live Parts; for this Species of Eschar, by numberless Connections, adheres to the live and sensitive Parts: Whilst, therefore, this Eschar gradually contracts itself, and is lessen'd in all its Dimensions, the sensible nervous Fibres in the live Parts, surrounding the gangrenous Eschar, are distracted by a kind of slow Dilaceration. Hence the Pain, usual on those Occasions, arises. It is, therefore, obvious, that emollient and laxative Substances must be of singular Service in Cases of this Nature; since, by their means, the gangrenous Eschar is not only sooner disengag'd, but also the Pain, arising from the Distraction of the nervous Fibres, mitigated. To these Cataplasms such Substances may be added as alleviate the Pain, though its Cause still continues, such as

Henbane, the Solanum of the Shops, and others of a like Nature. A Cataplasm for these Intentions may be prepar'd in the following Manner :

Take of the recent Leaves of Male Southernwood, of Pontic Wormwood, of Garden Rue, Scordium, *Alliaria* [Jack-by-the-Hedge], Hemp-agrimony, white Horehound, and Tobacco, each half an Handful ; of Henbane, one Handful ; of the Flowers of Marigold, the lesser Centaury, Melilot, Feverfew, and Tansey, each two Ounces ; of the Flowers of Marshmallows, and wild Poppy, each one Ounce. When these are boil'd with Water, in a close Vessel, for a quarter of an Hour, mix with them, of the Meal of Linseed, four Ounces ; of the Oil of Rue by Infusion, two Ounces ; of the Acetum Theriacale, and the Spiritus Vini Theriacalis, each one Ounce ; and of Sal Ammoniac, one Dram.

The Cure is also much promoted by a less frequent Inspection of the Part than is usually practis'd.

How quickly a Gangrene and Sphacelus frequently spread, we have already observ'd : For this Reason, Surgeons, always dreading the worst, frequently inspect gangrenous Parts ; and this Practice is just, and well founded, so long as we are not certain, that the Gangrene is stop'd. But, after the Appearance of this Division, all around the Gangrene, a Stop is put to the spreading Disorder ; because the Continuity is destroy'd, by means of which the mortify'd Parts adher'd to those that were sound. There is, therefore, no Danger in suffering the Cataplasms to remain for a considerable time, without being renew'd ; for they consist of such Ingredients as prevent the Putrefaction to be dreaded. Thus, by such a continual Maceration, the gangrenous Crusts will decay, and the Suppuration, so necessary in this Case, will be promoted. But, when the Apparatus is often renew'd, the free Access of the Air to the live Parts, now divested of the gangrenous Crust, will prove injurious, as is shewn under the Article VULNUS ; especially if Surgeons spend a considerable Time in examining and cleansing the gangrenous Part with their Instruments, as they sometimes do. 'Tis sufficient, if the Surgeon, three or four times a Day, smells whether he perceives any Degree of a putrid Smell ; and, if he perceives no such thing, the whole Apparatus may remain unchang'd for twenty-four Hours.

When, after these Measures are taken, the Eschar begins to be contracted, the scarify'd Parts to become moist, the sound Margins to grow tumid, red, and to suppurate, and the mortify'd Part to move up and down, 'tis a Sign, that the Separation is carrying on, that the spreading Disorder is stop'd, and that the Part will soon become pure and free from the gangrenous Taint.

When, by the Force of the vital Fluid carried to the Boundaries of the gangrenous Eschar, the Fibres joining the Gangrene to the sound Parts are divided, the Extremities of the live Vessels will be retracted. The gangrenous Eschar, in the mean time, which receives no more Supply from the Vessels, will, by the Heat of the adjacent Parts, lose its most fluid and moveable Parts ; in consequence of which, it will become dry, and have its Bulk every way diminish'd : Hence it will be contracted in its Circumference, and recede from the live Margins to which it before adher'd. These two Circumstances, concurring, produce that Chink or Gap which fixes the Bounds between the mortify'd and live Parts, and puts a certain Stop to the spreading Disorder. But, in this Place, the live Vessels, now divested of their mortify'd Covering, begin to perspire, and discharge a Fluid from their open Orifices : Hence a certain Moisture appears in this Aperture, which is an excellent Sign of returning Life in the Part. If the gangrenous Part has been divided by Scarifications, the Bottoms of these Divisions, which at first were very dry, will afterwards begin to become moist : But this Moisture will easily be distinguish'd from that which is produc'd by Fomentations and Cataplasms ; for, if, these being remov'd, the Part is duly cleans'd and inspected, it appears perfectly dry, so long as the Separation of the mortify'd Part, from that which is sound, is not begun ; whereas, if the adjacent live Vessels have already, in some measure, remov'd the mortify'd superincumbent Portion, a manifest Moisture will appear in the Bottoms of the Divisions, which, though wip'd away, will forthwith appear afresh. Soon after, a Suppuration will begin ; and, when this happens in the Aperture dividing the gangrenous and mortify'd Part from the live Margins, there appears a Pus, which is not laudable, but seems to partake of a middle Nature between a gangrenous Matter, and a good Pus ; for that Fluid which is convey'd through the live Vessels, now free and unobstructed, would, in consequence of its Continuance, Heat, and the Dissipation or Absorption of its most liquid Part, be converted into Pus ; but the mortify'd gangrenous Part, being dissolv'd into a kind

of thin Ichor, will mix itself with it ; for, in the Beginning of the Separation, a thickish and somewhat unctuous Ichor is discharg'd ; but, on the subsequent Days, it gradually approaches, more and more, to the Conditions of laudable Pus, till at last it acquires all its Qualities. In this Case, the live Margin, every-where disengag'd from the mortify'd gangrenous Portion, to which it adher'd, is exactly in the same State with the Lips of a Wound : Hence it will begin to grow tumid, and become red, painful, and hot, for the Reasons assign'd under the Article VULNUS. The same will happen to the live Parts lying under the gangrenous Eschar ; for they will, also, be gradually separated from the mortify'd Part. Hence the Crust, which before adher'd pretty strongly, will become moveable, and begin to yield, when touch'd with the Fingers ; and, by a gentle Pressure, the Liquor, collected under it, is discharg'd all around it. Thus, when all the Fibres, joining the mortify'd to the live Parts, are gradually divided, the former falls off, and leaves a simple Wound, with Loss of Substance, which is to be incarn'd and consolidated in the usual manner.

Then lenitive, anodyne, balsamic, and digestive Substances, are to be apply'd ; the Ulcer is to be dress'd. All Medicines, which render the Fibres rigid, are to be avoided. The Part is to be kept in a State of Rest ; and the Disorder, in other respects, is to be treated like an Ulcer.

After the spreading Disorder is stop'd, and the gangrenous Crust, separated from the live Margins, remains like an Island in the Middle of them, we are to consider it as a sordid Ulcer, which first demands Depuration, then the Regeneration of the lost Substance, and, lastly, Consolidation. Hence *Celsus*, in the 26th Chapter of his 5th Book, when treating of the Cure of a Gangrene, justly advises, " that, when the Disorder " is stop'd, we should apply those Medicines which are proper " in a putrid Ulcer." But the Cleansing of this Ulcer consists in taking such Measures as may, as soon as possible, make the gangrenous Crusts fall off, after they are separated from the live Parts to which they adher'd, by the Impetus of the vital Humours convey'd through the Vessels. This Intention will be best answer'd by such Medicines as relax and mollify these gangrenous Crusts. Hence the Unguentum Aureum, Balsicon, and fresh Butter, are of singular Use for this Purpose. Nor is it to be apprehended, that the Vessels, being too much relax'd by these emollient Applications, should degenerate into fungous and luxuriant Flesh ; for this will be prevented by the superincumbent gangrenous Crust ; and, when this is remov'd, and, by that means, the Place freed from a gangrenous Taint, such Medicines are to be apply'd, as gently corroborate and check the excessive Dilatation of the Vessels. These Emollients are of an anodyne Nature, for the Reasons before-mention'd. But if, after these gangrenous Crusts are, in some measure, separated, the bare live Vessels should begin to rise too much, this Symptom may be remov'd by sprinkling Powder of Mastich upon them ; and the Emollients are, in the mean time, to be apply'd to the other Parts of the Wound. Dressing the Part affected very seldom, is a Circumstance of singular Service, as we have already observ'd. But all spirituous Substances, such as Alcohol of Wine, camphorated Spirit of Wine, and the Spiritus Vini Theriacalis, prevent Putrefaction, but retard the Cure ; because they coagulate the Fluids, and render the solid Fibres highly rigid ; in consequence of which, the Separation of the mortify'd from the live Parts will be more difficult ; since, by this means, the Cohesion of the solid Parts is augmented. The same Misfortune will happen, if the Part is continually fomented with acrid Lixiviums of Sea-salt, or Sal Ammoniac ; for 'tis certain, from daily Experience, that the Flesh of Animals become hard by being immers'd in Brine or Pickle. The Part affected ought to be kept in a State of Rest, that the Dressings may the better remain in their Situation, and that the pulpos and soft Vessels may not be destroy'd by their Attrition on the gangrenous Eschara. The other Measures, requisite for the perfect Cure of a Gangrene, are the same with those to be taken in the Cure of an open Ulcer. See the Article ULCUS.

When a Gangrene arises from an intense Cold, the Part affected is to be cover'd, either with Snow, or with Linen Cloths soak'd in cold Water, till, the Spicula of the Cold being absorb'd by the Snow, or the cold Water, the Part begins to be thaw'd, and its Life to return.

If the Cure of this Species of Gangrene was attempted by the Measures already directed, the Part affected would soon be sphacelated to the very Bone ; a Case which frequently happens in the northern Climates. This Species of Gangrene is, therefore, to be carefully distinguish'd from others, which may be easily done by attending to the preceding Cause, and the Signs of this Gangrene, when present.

The Heat of the human Body, when in a sound and healthy State, surpasses the Heat of the circumambient Air, even in the hottest Summer Months. Hence 'tis obvious, that an intense Degree of Cold is requisite to render the Parts of the Body rigid. But, since, all other Circumstances being alike, the Heat is less in the Extremities, because the Velocity of the Blood is diminish'd in proportion to the Distance from the Heart; the Effects of the cold Air are, for this Reason, principally observable on the Toes and Fingers, the Point of the Nose, and the Ears. But, since Cold converts Water, which was before fluid, into rigid Spicula, it follows, of course, that it must produce a similar Effect on the Fluids of the human Body, which contain a large Quantity of Water. The Influx and Efflux of the Humours will, therefore, be totally destroy'd, when the congeal'd Humours lose the Nature of a Fluid. In this Case, therefore, a Gangrene will be form'd, as is obvious from the Definition already given. Since these congeal'd Spicula are lodg'd in the tender Vessels, 'tis sufficiently obvious, that all the Parts must be destroy'd, if these are put in Motion, either by Heat or Frictions; for, if we should suppose, that, these Spicula being partly resolv'd, the Circulation of the Blood should, in some measure, return, those Parts, which are not as yet render'd fluid, must necessarily stick in the narrowest Parts of the Vessels; and, since the Force of the succeeding vital Fluid acts upon these Obstacles, the Cohesion of the Vessels must necessarily be soon destroy'd by these sharp and rigid Molecules; in consequence of which, the Disorder will soon become incurable, and the only Means of Safety will consist in a Separation of the corrupted and mortify'd Parts from those which are sound and alive. Perhaps these Disorders are increas'd, because the saline Molecules of the human Fluids are separated, and form'd into larger Masses; and, when these Masses are put in Motion, before they are again render'd fluid, they may prove prejudicial, both by their Figure and Rigidity. At least we learn from Experience, that Water, richly impregnated with Salt, cannot be congeal'd without an intense Degree of Cold; and that, before it is congeal'd, the Salt is separated from it, and collected in the Bottom of the Vessel.

Experience has taught us, that, in cold Countries, these Disorders are happily cur'd by the Application of Water so cold, that it is very near to a State of Congelation; for this Water, acting as a physical Cause, extracts the Particles which had congeal'd the Fluids; and that Part of the Water, which is next to the Part affected, is, by their means, congeal'd. By this means the Humours are restor'd to their natural Fluidity; and then a due Motion may be procur'd to them, by stimulating Cardiacs and Frictions. Thus *Hildanus*, in the thirteenth Chapter of his Treatise *De Gangræna & Sphacelo*, informs us, that before the Inhabitants of the Northern Climates approach the Fire, or enter into Stoves, they rub their Hands, Noses, and Ears, with Snow. The same Author tells us, that he was inform'd by a Person of unquestion'd Veracity, that when a Traveller was brought to an Inn, rigid with Cold, and as it were dead, the Landlord immers'd him in cold Water, after which the Spicula of Cold, were so copiously discharg'd, that his whole Body seem'd to be cover'd with a Crust of Ice: Then, by exhibiting a large Quantity of Hydromel, together with the Powder of Cinnamon, Mace, and Cloves, a Sweat was excited in a warm Bed, and the Patient recover'd, without any farther Loss than that of the last Articulations of his Fingers and Toes.

In Cases of this Nature, the Part becomes putrid by the Application of Heat; because the Spicula of Cold are put in Motion, without being reduc'd to a due Degree of Fluidity.

Whilst, the physical Cause, producing the Congelation, not being extracted, Motion is procur'd to the Spicula of Cold by external Heat, the tender Stamina of the Vessels must necessarily be destroy'd. This plainly appears in what we call frosted Apples; for, if these are laid before the Fire, in order to be thaw'd, they lose all Taste, are soon corrupted, and transform'd into a soft Pulp: But, if they are immers'd in cold Water, near to a State of Congelation, a Crust of Ice begins, every-where, to cover them: And, after this Crust is fallen off, they are again to be immers'd in cold Water, and this Method is to be repeated, till no more Ice is discharg'd from them. After this they have their usual Taste, and, when dry'd, may be preserv'd for a considerable time. The same happens in the Parts of the human Body, when constricted with Cold, if they are imprudently expos'd to Heat, before the Spicula of Ice are extracted by the Application of Snow, or cold Water; for such Parts, becoming corrupted by a legitimate Sphacelus, fall off. *Hippocrates* seems to have given a Caution, with respect to this, when, in the first Chapter of his Treatise *De Liquidorum Usu*, he tells us, "That Feet benumb'd with Cold fall off by an Affusion of any warm Liquor."

After these Measures are taken, the Patient is to have his Strength recruited by cardiac Medicines, of a hot Qua-

lity; and a Heat, so intense as to produce a Sweat, is to be excited.

After the Spicula of Cold are extracted, there is no Fear of destroying the Parts by exciting the Motion of the Fluids; and such Medicines may be safely exhibited, as excite a pretty brisk Motion, and consequently diffuse an equable Heat, either thro' the whole Body, or the Part affected; for, by this means, the Circulation of the Humours will, most quickly, be restor'd through these Parts, in which, a little before, they were stagnant, and at Rest. Hence, *Hildanus*, in the thirteenth Chapter of his Treatise *De Gangræna & Sphacelo*, recommends gentle Frictions, and afterwards Fomentations of sweet Milk, boil'd with Leaves of Bays, Rosemary, Sage, and Lavender; and, after this, he orders Sudorifics to be exhibited to the Patient, in a warm Bed: These Fomentations are, in the mean time, to be continually applied, that the Motion, created by the internal Remedies, may be principally determin'd to the Part affected. *Van Swieten* informs us, that he has seen singular Service done, only by an Infusion of Sassafras, in poor Persons, who have been seized with Gangrenes during intensely cold Winters.

A Sudorific, proper in a Gangrene, may be thus prepar'd.

Take of distil'd Treacle-water, one Ounce; of the prophylactic Water of *Sylvius*, six Drams; of the Aquavita of *Matthiolus*, one Ounce; of Rue-water, nine Ounces; of *Fernelius's* Syrup of Mugwort, and of the Syrup of the Five aperient Roots, each an Ounce and an Half; and of Elixir Proprietatis, prepar'd with Salt of Tartar, two Drams: Mix all together. Let the Patient take a Spoonful, every Half-quarter of an Hour, drinking after, an Ounce or two of the following Mixture:

Take of Barley-water, two Pints; of French-wine, one Pint; of powder'd Ginger, two Drams; and of the Syrup of Jerusalem-oak, three Ounces: Mix all together.

OF A SPHACELUS.

If a Gangrene degenerates into a Sphacelus, the Part infected must be remov'd; but the Method of doing this is to be varied, according as the Part is totally, or only partially affected, and according to the Situation of the Part, which sometimes does not admit of Amputation, as the Buttocks, Os Sacrum, Os Coccygis, the prominent Spines of the Vertebrae, and Eminences of the Scapulae.

If, therefore, the Part is not corrupted to the very Bottom, or cannot be extirpated, our Endeavours must tend, first, To stop the Progress of the Sphacelus; and, secondly, To remove the sphacelated Portion.

The Progress is stop'd by intercepting the Communication betwixt the live and sphacelated Part.

In the Part, thus mortified, all the Humours remain at Rest, in the Vessels; or, the Vessels being ruptur'd, the Humours are discharg'd, and become stagnant: But, so long as the Cohesion between the mortified and live Parts remain, the Fluids, convey'd through those Vessels, which are as yet alive, will stop in the Part where the Sphacelus begins; and, consequently, the Motion will be suffocated in the live Parts contiguous to that which is mortified; and thus the Disorder will be propagated. Nor can this Misfortune be prevented, unless the Cohesion between the live and mortified Parts is previously destroy'd: As soon as this happens, whether by the spontaneous Workings of Nature, or the Assistance of Art, the Humours will be discharg'd from the ruptur'd Vessels, the Extremities of the divided Vessels will be retracted, and an Aperture, dividing the live from the mortified Parts, will be form'd; nor will the Sphacelus, in this Case, spread any farther, tho' several Causes, favouring its Propagation, should concur.

A Stop is put to the Propagation of this Disorder, by placing a pretty deep Boundary between the sound and disorder'd Part, either by Incision, the actual Caustery, or Corrosion.

Art, attempting to imitate Nature, may place a Boundary of this kind, to prevent the Propagation of the Disorder, and cut off the Communication between the mortify'd and live Parts. But this is never so accurately done by Art, as by Nature; which produces a perfect Separation of the mortify'd from the live and sound Parts, at the same time preserving the latter entire and undestroy'd; for, when this Effect is produc'd by the Knife, the actual Caustery, or Corrosives, a Part of the mortify'd Portion is either left, or the live Parts are destroy'd together with those which are mortify'd. We have already shewn, that the Cohesion between the mortify'd and live Parts, is destroy'd only by the Efficacy of the vital Fluid, convey'd to the Circumference of the corrupted Part; which, afterwards, by a gentle Suppuration is every-where separated, and falls off. 'Tis expedient to make this Boundary or Division, whether by the actual Caustery, or the Knife, in the mortify'd Parts, but,

at the same time, as near to those which are alive as possible; for since, in this Case, all the Parts are not suppos'd corrupted to the Bottom, or when the Condition of the Part affected is such, that it cannot be entirely remov'd, it would be cruel to destroy the live Parts; for hence would be produc'd violent Pains and Inflammations, especially, because the Knife and Caustery must penetrate pretty deep in a Sphacelus. 'Tis true, that by this Method a Part of the mortify'd Portion is left adhering to the live Parts; but yet this mortify'd Portion, left without the Division or Boundary, will no longer injure the sound Parts by its putrid Contagion, and may by antiseptic Medicines be so preserv'd, as to prevent any Degree of Putrefaction. Whilst, in the whole Surface of the sphacelated Part, such a Boundary is artificially made, and the remaining Surface divided by deep Scarifications, the Medicines apply'd will penetrate much deeper, so that there will be no Danger of a Putrefaction; and we may safely expect the perfect Separation of the mortify'd from the sound Parts, which Effect is produc'd by Nature alone. Now, such a Boundary, or Division, may be made either by the Knife, the actual Caustery, or those corrosive Liquors, which, in a Moment, destroy the Parts they touch. For this Purpose, *Belleste* recommends a rich Solution of Quick-silver in Aqua-fortis. But others give the Preference to Butter of Antimony, especially, when, by due Rectification, it is render'd fine and limpid, like Water; for then, by means of this highly acrid Liquor, and the Assistance of a Pledget, such a Boundary may be made at Pleasure all round the Circumference of the Sphacelus. This Medicine is highly efficacious in Disorders of this Nature, because it consists of a most concentrated Spirit of Sea-salt, united with the reguline Part of Antimony. Now, Spirit of Sea-salt is an incomparable Remedy for checking and correcting Putrefaction; for which Reason it is of so singular Service in curing Gangrenes of the Gums, as we have already observ'd. But by these means a Separation of the mortify'd from the live Parts will not be produc'd, but a Boundary is only plac'd between the sound Parts and the Sphacelus, which Boundary is itself mortify'd, and must afterwards be separated; the Communication, however, between the sound and mortify'd Parts is by this means destroy'd. *Celsus*, in the twenty-eighth Chapter of his fifth Book, when treating of the Cure of a Carbuncle, beautifully describes the Force of corroding Medicines in the following Words: "A Crust is produc'd by corrosive Medicines, which being separated everywhere from the live Flesh, carries along with it whatever was corrupted." This Author justly observes, that such a Crust is produc'd by Corrosives, but that it is afterwards separated from the live Parts. This Separation does not, therefore, depend on the Force of the Corrosives, which was spent before the Separation happens.

The infected Part is separated, if, after the Progress of the Disorder is stoppt, or whilst it is a stopping, the whole Part is cauterized or cut to the sound subjacent Parts, and then corroded by the Application of a warm acrid Lixivium, till it is consum'd to the live Parts, till Eschars are form'd, which are carefully to be soften'd and remov'd: But the live Parts must, at the same time, be avoided with the greatest Caution.

Since a Sphacelus is said to be present, when all the Parts are mortify'd as far as the Bone, all these corrupted Parts must be remov'd as soon as possible, lest they suffocate and render putrid the Parts of the Bone, or Periosteum, which are still alive. But the Parts affected with a Sphacelus are mortify'd, and can be no more influenc'd by Medicines, than a Carcase. Hence, they must be remov'd, either by Incision, the actual Caustery, or such Corrosives, as by their external Heat are capable of acting upon dead Bodies. Mr. *Petit*, in the *Memoires de l'Academie des Sciences*, for the Year 1732. informs us, that the potential Caustery, commonly us'd by Surgeons, apply'd to the Skin of an human Carcase for fifteen Hours, and dissolv'd, as it generally is, by the Air, scarcely produc'd any Effect: But when, by the Application of warm Linen Cloths, he carefully fomented the Part of the Carcase, to which the Caustic was apply'd, he, after fifteen Hours, found that the Skin was render'd soft like Pulp; and that the Efficacy of the Medicine had penetrated to the Fat. For removing mortify'd Parts, therefore, we may, with great Success, apply that common potential Caustery of the Surgeons, which is prepar'd of the inspissated Lixivium of Quick-lime, and Pot-ash, or this Lixivium itself may be us'd for the same Purpose: And if the Heat of the adjacent live Parts is not sufficient, external Heat may be apply'd. By this means the mortify'd Parts will soon be converted into Eschars, which, being soften'd by the Application of some emollient Ointment, or of Butter, may be commodiously remov'd. Then the same Medicine is to be apply'd in the same manner, till all the mortify'd Portion is consum'd as far as the live Parts. But because, in every Sphacelus, there is always a Danger of Putrefaction, we might possibly be induc'd to think, that acid Corrosives would be more proper, than a Lixivium prepar'd of Quick-

lime and alkaline Salt, which quickly renders the Salts of the human Fluids volatile, alkaline, and putrid. But if we consider, that a Sphacelus penetrates as far as the Bone; and that Acids, especially of a highly acrid kind, are greatly injurious to the Bones; the Reason will be obvious, why in those Cases we ought to abstain from the Use of Acids. Thus Quacks have a Practice of rendering Teeth white in a Moment, by touching them with Spirit of Vitriol; but a few Weeks after they begin to grow yellow, then black, and at last fall off in small Pieces, because their vital Structure is destroy'd by the Acid of the Vitriol. Hence, in order to fix the Boundary between the mortify'd and live Parts, we justly prefer that highly concentrated Acid of Sea-salt, which is found in Butter of Antimony. But, for speedily converting the mortify'd Part into Eschars, and by that means gradually procuring its Separation, a highly acrid alkaline Lixivium is far more proper and effectual. If, after the soft Parts are thus consum'd, any Fault should appear in the Bone, which may be discover'd by the Change of its Colour, then those Medicines are to be apply'd, which are proper, when in Wounds of the Head, the Cranium is affected. See *CAPUT*.

But since all these Remedies are highly acid, and almost instantaneously destroy the Parts to which they are apply'd, 'tis obvious, that great Caution is requisite, lest the sound should be destroy'd with the mortify'd Parts. And, because, in a legitimate Sphacelus, all the Parts are often mortify'd, except the Bones, and the Periosteum, which covers them, these may be greatly injur'd by an imprudent Application of such Medicines. Hence, the Cure would be render'd highly difficult and tedious, since the Separation of the corrupted Parts of the Bone often requires a long time. Besides, as these Medicines penetrate very deep, the adjacent, and, as yet, live Tendons, Nerves, and tendinous Membranes, may be considerably injured and irritated by them: A Circumstance, which may give Birth to a Series of other Misfortunes.

'Tis also to be observ'd, that the Use of these Corrosives is by no means requisite, unless when the mortify'd Parts are very thick; for, if they are otherwise, the Cure may be safely accomplish'd without them. Thus, when, by long lying in Bed, a Sphacelus is form'd about the Os Coccygis, or the Os Sacrum, the mortify'd Parts generally become black, and parch'd like a Piece of dry Leather. And as, in these Parts, the Membrana Adiposa is very thin, these Medicines can hardly be apply'd without Danger of injuring the subjacent Bone. When, in Cases of this Nature, the Parts are frequently fomented with Wine, Vinegar, and Salt, then cover'd with the Emplastrum Simplex Plumbatum, and when, the Force of the Disease being subdued, the Patients frequently change their Posture, and retain their Fæces and Urine, in which these Parts were before drench'd, all the mortify'd Parts will be spontaneously separated, and the Cure happily accomplish'd. *Van Swieten* informs us, that he has seen several Instances of this kind.

The corrosive Lixivium, recommended by *Boerhaave*, for procuring the Separation of a Sphacelus, is prepar'd thus:

Take of Quick-lime, made of calcin'd Stones, one Part: Cover it carefully up with three Parts of Pot-ash; and when they are dissolv'd in a subterraneous Place, filtrate and keep the Preparation for Use. Quick-lime itself, reduc'd to a fine Powder, may also be sprinkled on the Part.

But Separations are most advantageously made, if the mortify'd Eschars, soften'd by the Application of a putrefying Remedy, so as to be dissolv'd into a soft Mass, recede from the sound Part, whilst the live Parts are, in the mean time, cherish'd with enlivening fomentations. See above.

When the Signs of Soundness and Life return, the Disorder is to be treated like an Ulcer, or a Wound.

When the Influx of the vital Humours into the Arteries, and their Efflux thro' the Veins, are destroy'd, the Part is then said to be mortify'd. The Signs, therefore, of returning Life, are such Circumstances as inform us, that the Humours flow into the Arteries, and are return'd by the Veins; that is, that the Circulation is restor'd, or at least beginning to be so. But this can never happen in Parts corrupted by a legitimate Sphacelus, but only in those which are subjacent or contiguous.

If, therefore, either by Scarification or Corrosion, a Part of the mortified and corrupted Portion is remov'd, or divided, as far as the Confines of the live Parts, as soon as the Life of these begins to prevail, these Fissures, which before were dry, become moist, and the mortified Portion will, in all its Circumference, be separated from the live Parts, as we have before observ'd. In this Situation of things, there is no longer any Danger, lest the Sphacelus should spread; but it may be consider'd as a sordid Ulcer, which, after cleansing the corrupted Parts, may, by a benign Suppuration, be brought to the State of a simple Wound, and consequently requires a similar Treatment. But we must observe, that, after such Parts are suffi-

ciently cleans'd, the softest Balsams are principally beneficial, in order to regenerate and restore the lost Substance.

When the Measures above-recommended will not produce the desir'd Effect, we must proceed to Amputation. See AMPUTATIO.

The following Medicines are, by *Heister*, recommended for the several Intentions of Cure in a Gangrene.

A FOMENTATION which digests, stimulates, and resists Putrefaction.

Take of Quick-lime Water, one Pint; of camphorated Spirit of Wine, three Ounces; and of the Spirit of Sal Ammoniac, half an Ounce: Mix all together.

Let this Preparation be frequently apply'd warm with proper Compresses: The same Intention is also excellently answer'd by a Pint of Quick-lime-water, mix'd with an Ounce of Mercurius Dulcis. *Heister* tells us, that, in the Hospital of *Amsterdam*, the Surgeons, with great Success, use the following Fomentation against a Gangrene.

Take of the Spirit of Wine, three Ounces; of the Powders of Aloes, and Myrrh, each half an Ounce; and of *Egyptian* Ointment, three Ounces: Mix all together.

Or,

Spirit of Wine, gently boil'd with Aloes, Myrrh, and Saffron; or camphorated Spirit of Wine mix'd with Venice Treacle; or the Spiritus Theriacalis, or the Spiritus Matricalis, mix'd with about a sixth Part of Elixir Proprietatis; or, what *Garengot* so much extols, warm Wine, mix'd with simple or camphorated Spirit of Wine; or camphorated Spirit of Wine, either by itself, or quicken'd with Sal Ammoniac; which he recommends as a highly efficacious Medicine for reviving the gangrenous Parts.

Or,

Take of the Leaves of Scordium, Southernwood, and recent Rue, each two Handfuls; of Chamomile-flowers, one Handful: Boil in a sufficient Quantity of common Water: Strain off the Liquor, and, to every two Pints of it, add, of the Spiritus Vini Theriacalis, four Ounces; of Venice Soap, two Ounces; and of Sal Gemmæ, half an Ounce.

These Fomentations are to be apply'd frequently every Day, with Linen or Woolen Cloths; applying over them, in order to preserve the Heat, folded Cloths, and heated Bricks.

A penetrating, resolvent, and digestive Cataplasim, for restoring the Circulation of the Blood in the affected Part, may be prepar'd in the following Manner:

Take of the Herbs Scordium, Mallows, Wormwood, and Feverfew, each two Handfuls; of Mint, and Southernwood, each one Handful.

Boil these in a sufficient Quantity of Oxycrate, in a close Vessel, to the Consistence of a Cataplasim; to which add, of Sal Ammoniac, half an Ounce; of the Meal of Linseed, two Ounces; of the Oil of Rue, or Chamomile, by Infusion, an Ounce and an half: And, before the Cataplasim is apply'd, let it always be sprinkled with camphorated Spirit of Wine, or the Spiritus Vini Theriacalis, in order to render it more efficacious: Or, instead of this, the following Cataplasim, recommended by *Koenerdingius*, may be used.

Take of the Crums of Wheaten Bread, one Pound; of the Powders of Wormwood, Scordium, and Rue, each one Handful; of Wine, a Quantity sufficient to reduce them to the Consistence of a Cataplasim: After gentle Boiling, add four Ounces of the Spirit of Wine; and apply warm.

A Fomentation for stopping the spreading of a Gangrene may be prepar'd in the following Manner:

Take of the Decoction of Barley, or Scordium, one Pint; of the Vinegar of Rue, six Ounces; of the Spiritus Vini Theriacalis, four Ounces; of Sea-salt, one or two Ounces: To be apply'd warm with Compresses.

A Cataplasim for softening the gangrenous Crust, and promoting its Separation, may be prepar'd in the following Manner:

Take of the Flowers of Scordium, two Handfuls; and of the Leaves of Mallows, Henbane, and Marshmallows, each one Handful; and of the Flowers of Lavender, half an Handful: Boil in Vinegar, or Oxycrate, to the Consistence of a Cataplasim: To which add, of the Meal of Linseed, three Ounces; of the Oil of Linseed, one Ounce; and of Sal Ammoniac, two Ounces.

If, in any Stage of the Disorder, the Use of Corrosives should be indicated, the celebrated *Belleste* orders the following Preparation, as the most efficacious of all others.

Take of the Spirit of Nitre, or of Aqua-fortis, two Parts; and of Quick-silver, one Part: Mix over a gentle Heat, till the Mercury is dissolv'd.

With this corrosive Liquor, the mortify'd Part is to be anointed, or a little Lint, or a Linen Cloth soak'd in it, is to be apply'd to the corrupted Part; for, by this means, the mortify'd Parts will soon be divided from such as sound and alive. *Heister. Chirurg.*

GANGRINOS (*Sal*), γὰρσεινον ἄλας, in *Myrepsus, Antidot.* 418. is render'd by *Fuchsius, Sal fossilis*, fossil Salt; for other Greek Authors, he says, call the same Salt ἑρκεῖον, *fossile*; and the Barbarians, *Sal Gemmæ*.

GANIMEDES (more properly GANYMEDES), in the mysterious Language of the Chymists, is *white Sulphur*; because it is elevated, sublim'd, and, as is feign'd of *Ganymede*, by the Poets, rapt up into Heaven. *Johnson.*

GANNANAPERIDE. A Name, in *Ray*, for the QUINQUINA.

GARAB, ALGARAB, are Names, in *Avicenna*, for the ÆGILOPS. *Sennert. Vol. 2. p. 569.*

GARAGAY. A Bird of Prey in *America*, of the Bigness of a Kite. It searches the Banks of Rivers for the Eggs of Crocodiles and Tortoises, which it carries away, and eats. It lives solitary, and is of no Use in Medicine. *Lemery des Drogues.*

GARB. A Name given by the Moors to an Arabian Species of SALIX, or Willow. *Ray.*

GARGALE, Gargalos, Gargalisinos, γαργάλη, γαργαλῖς, γαργαλισμός. Irritation, Stimulation, Titillation. *Erotian. in Hippoc.*

GARGAREON, γαργαρέων. The Uvula. See UVULA.

GARGARISMA, GARGARISMUS, γαργαρίσμα, γαργαρίσμος, is sometimes taken, in a large Sense, for every Collution of the Mouth; and so is the same with DIACLYSMA, of which before; but, more strictly and properly, it signifies a liquid Medicine, appropriated to Affections of the Mouth, Gums, Fauces, Larynx, and sometimes of the Head, receiv'd into the Mouth, and there us'd by way of Collution, without Deglutition. *Castellus.*

Gargarizations, as *Celsus* says, are made for the sake of Alleviation, Repression, or Evacuation: The first Intention is answer'd by Milk, and Cremor of Ptisan, or of Bran; Repriments are Water, boil'd with Lentils, Roses, Bramble, Quinces, or Dates; Evacuants are Mustard and Pepper. *Celsus, L. 5. Cap. 22.*

GARGATHUM. A Bed, to which Lunatics and Demoniacs were confin'd. *Castellus.*

GARIDELLA. This Plant was so nam'd by Dr. *Tournesfort*, in Honour of Dr. *Garidel*, who was Professor of Phylie at *Aix in Provence*.

The Characters are;

The Root is annual, the Leaves capillaceous, the Calyx polyphyllous, the Flower rosaceous, with formicated, or arch'd, bifid Petals, dispos'd in a Circle. The Head consists of many oblong bivalve Capsules, full of Seeds, which are, for the most part, round.

Boerhaave mentions but one Species of this Plant; which is, *Garidella*; foliis tenuissime divis. *T. App. 655. Nigella, Cratica, folio Fœniculi. C. B. Pin. 146. GARIDELLA, with very narrow-divided Leaves. Boerb. Ind. alt. Plant. Vol. 1. p. 283.*

At present there are no medicinal Virtues attributed to this Plant, that I can find.

GARIP. A Term in *Lagneus's Harmonia Chemica*, quoted from *Haly*, and explain'd by *aliquid aliud*, "some other thing." *Theat. Chym. Vol. 4. p. 730.*

GARON, GARUM, γάρων, γάρυον. A kind of Pickle, prepar'd of Fish, season'd or macerated with Salt. The Fish most in Use, for this Purpose, was the Scombrus, or Mackerel, as appears from *Martial*, and *Horace, Serm. Lib. 2. Sat. 8. Caro de succis piscis Iberi*; "Garum of Juices of the Iberian [Spanish] Fish." There were several Sorts of Garum. *Archigenes, in Galen. de C. M. S. L.* commends γάρων Σπιδνιον, "Spanish Garum." And *Asclepiades*, in the same Book, mentions black Garum, in auricular Compositions. This black Garum seems to be the same with what *Martial* calls *Fæcosum*, as if made of the Faces of Fish, and with the ἀιματιον, "sanguineous," so call'd because the Blood of the Fishes was an Ingredient in its Composition. One way of preparing it is describ'd by *Constant. Cesar, Lib. 20. de Agricultura. Paulus, Lib. 3. Cap. 51.* calls it γάρων πρῶτον, "the primary (or choicest) Garum." And it is the same as what *Pliny* and *Martial* call *Hispaniense, Carthaginiense*, and *Sociorum. Ausonius, Epist. 7.* says, that Garum was call'd, in Latin, *Liquor sociorum*. When we read in *Galen*, that black Garum was call'd; by the Romans, *Oxyporum*, it means no more than that this Sort of Garum was us'd in Medicines and Pickles call'd *Oxypora* (see OXYPORON); or serv'd to dilute them, and

and thence took the Appellation of *Oxyperon*. We are inform'd by *Pliny, Lib. 31. Cap. 7.* that this exquisite Kind of Liquor, call'd *Garum*, is made of the Intestines, and other Offals, of Fish, macerated in Salt, so as to be the Sanies produc'd from their Putrefaction. It was formerly made of the Fish, which the *Greeks* call *Garos*, as he relates. But (as he goes on, in the next Chapter) the most esteem'd, at present, is made of the *Scombrus*: Nor is there hardly any other Liquid, besides Ointments, that bears a greater Price. He proceeds to inform us of several other Species of Fish, of which it is prepar'd; and says, there are infinite Sorts of it among them, one consecrated by the Religious among the *Jews* to the Service and Promotion of a superstitious Chastity, because it was prepar'd from Fishes void of Scales. He says further, that these Preparations of *Garum* are not only serviceable to the Necessities of Life, but have their Use in Medicine; for they cure the Scab, or Mange, in Cattle, being infus'd into an Incision made in the Skin: And, being spread on Linen, and applied, are effectual against the Bite of a Dog, and the *Draco marinus*, and, especially, the Crocodile. It cures also, he says, recent Ambustions, and spreading or sordid Ulcers; and is of extraordinary Efficacy in Pains and Ulcers of the Mouth and Ears.

All Kinds of *Garum*, which are the Colliquament or Sanies of Fish and Flesh, macerated in Salt, are useful, in Clysters, for the Dysentery and Sciatica; in the first Case, for repressing and restraining Exulcerations of the Intestines; and, in the latter, for inciting and stimulating the Intestines, though free from Exulceration, to discharge the peccant Humours which affect the Hip. *Dioscorides, Lib. 2. Cap. 34.*

Aetius, Tetr. 4. Sermon. 4. Cap. 121. gives the following Description of a *Garum*, for the Use of those who are bound to Abstinence: Take of Water, thirty-one Sectaries, or Pints; Salt, two Pints; Caricæ, or dry Figs, to the Number of fifty: Prepare, strain, and reposit them for Use. The true way of preparing the *Garum*, so much in Request among the Antients, is unknown to the Moderns.

Garum, as well as *Muria*, is esteem'd, by *Oribasius*, a vehement Drier; and *Aetius, Tetr. 1. Sermon. 2. Cap. 150.* tells us, that *Garum* is of a very hot and dry Quality, and, for that Reason, was us'd, by some Physicians, for putrid Ulcers, and, in Clysters, for a Dysentery, and the Sciatica. *Galen, de Al. Fac. Lib. 2. Cap. 22.* ascribes to *Garum* a laxative Quality, if taken before Food.

Garum, among the Moderns, signifies the Liquor, or Pickle, in which Fish is preserv'd, more especially the Herring and Anchovy; the medicinal Uses of which may be found under the Articles *HALEC*, and *APUA*.

GARRULUS. A Species of Pye, call'd also *Pica marina*, frequent about *Strasburg*. *Garrulus Bohemicus* is the same Bird as the *AMPELIS*; which see. *Castellus*.

GARYOPHYLLATA. See *CARYOPHYLLATA*.

GARYOPHYLLI. See *CARYOPHYLLI*.

GAS is a Term coin'd by *Helmont*, and signifies, in general, a Spirit incapable of Coagulation; such as proceeds from fermented Wine. In particular, it has various Significations; thus *Gas vitale* is the Spirit of our Life, the Light and the Balsam which preserves from Corruption, *Complex. & Mist. N. 42.* The *Gas pingue Sulphureum* is what is suddenly mortal, being lethiferous Exhalations, arising principally in Caves and Mines. *Gas Sulphuris*, the Gas or Spirit of Sulphur, is made by burning Sulphur under a glass Bell, set over a Vessel of Water, till the Water is sufficiently impregnated with the Sulphur. The *Gas Sylvestre* is that invisible and incoercible Spirit, which arises from vegetable Juices under Fermentation. See *ALCOHOL*, and *BUFO*. *Helmont* makes several other Distinctions of Gas; as the *Gas Ventosum*, which is mere Air; the *Gas secum*, which is Sublimate, *de Flatibus, N. 4.* the *Gas salium*, and the *Gas Frustum*, which are mere elementary Water, *Complex. & Mist. N. 37, 38.*

GASSELLA, seu **GAZELLA**, is the African wild Goat. See *BEZOAR*.

GASTER, γαστήρ, in *Hippocrates*, often signifies the whole Abdomen, comprehending the lower Belly and Epigastrium, or all that Region of the Body which is circumscrib'd by the Diaphragm, Hypochondria, and Pubes; it is, also, taken for the Ventricle, or Stomach, the Receptacle of Meat and Drink; so it signifies in *6 Epid. Sect. 4. Aph. 6.* *Hippocrates*, also, frequently means by it the Uterus.

GASTERANAX. See *BITHYNIALCA*.

GASTRICUS SUCCUS, from *Gaster*, the Stomach, is a thin, pellucid, spumous, and saltish Juice, which continually distils from the glandulous Kernels of the Stomach, for the Dissolution, Mixture, and Dilution of the Food.

GASTRINUM. Pot-ash. *Rulandus. Johnson.*

GASTROCNEMII. The Name of two Muscles of the Leg; from γαστήρ, a Belly, and κνήμη, the Leg.

These are two thick, pretty broad, and oblong Muscles, situated laterally with respect to each other, in the same Plane, under the Hams, and forming a great Part of what is call'd the Calf of the Leg. That which lies next the Tibia is call'd

Internus; and that next the Fibula, *Externus*; and because they form, as it were, the Belly of the Leg, they have been term'd, in *Greek*, *Gastrocnemii*.

Each Muscle is fix'd above, by a flat Tendon, to the posterior Part of the lower Extremity of the Os Femoris, behind the lateral Tuberosity of each Condyle, adhering closely to the posterior Ligaments of the Joint of the Knee.

From thence they run down, each forming a large and pretty broad fleshy Body, irregularly oval. The *Externus* covers the *Popliteus*, being larger and broader, spreading more laterally, and running lower down than the *Internus*, the fleshy Body of which begins higher up than the other.

About the Middle of the Leg they end in a strong, broad, common Tendon, which contracts a little in Breadth, as it descends, and is inserted in the posterior Extremity of the Os Calcis, together with the Tendon of the *Soleus*.

The superior Tendons of these Muscles become gradually cartilaginous in aged Persons, and, at last, ossify near the Condyles; the bony Portions looking like Scamoid Bones. It is sometimes very late before they are harden'd in this manner; and sometimes one grows hard before the other. *Winslow.*

GASTROEPILOICA, γαστροεπιλοική, from γαστήρ, the Stomach, and ἐπιλοιχόν, the Omentum or Cawl. An Epithet for the Veins and Arteries which go to the Stomach and Omentum. *Blancard.*

GASTRORAPHIA, γαστρογραφία, from γαστήρ, the Belly, or Abdomen, and ράφη, a Suture. Gastroraphie, or the Operation of performing a Suture of the Abdomen. See *ABDOMEN* and *SUTURA*.

GASTROTOMIA, γαστροτομία, from γαστήρ, the Belly, and τέμνω, to cut, is a Cutting of the Abdomen and Uterus, as in the Cæsarean Section. *Blancard.*

GATRINUM. Pot-ash. *Johnson.*

GATTARIA. The same as *CATTARIA*, that is, Catmint. *Blancard.*

GAUSOS, γαῦσος, γαυρός. Gibbous, bent, incurvated, as *Galen* explains the Word, commenting on that Passage of *Hippocrates, Lib. de Fract. προσεχύνεται δὲ χεὶρ, &c.* "Now we ought to know, that the Thigh is γαυρός" [that is, says *Galen*, κυρτός, gibbous, bent] "more towards the exterior, than the interior Parts."

GAZAR. The Bay-tree. *Johnson.*

GAZELLA. See *BEZOAR*.

GE, γῆ. Earth. See *TERRA*.

GEBRIL AL CAHHAL, a Physician, who, though a Christian, was much in Favour with the Caliph *Al Mamoun*; which he lost entirely, by saying, one Day, to some of the Lords of his Court, that he was asleep.

GECHARSUN. A Frog. *Rulandus.*

GECHYTON, γήχυτον, in *Galen's Exegesis*, is expounded, the external Part of the Earth, which is soft, and not at all stony.

GEISON, γείσων, γείων, γείσωμα, properly the Eaves of an House, is put, by Metaphor, for the prominent Part of the Eyebrows. *Gorræus.*

GELASINOS, γελασινός, from γίλας, Laughter, is an Epithet of the four middle fore Teeth; so call'd because they are shewn in Laughing. *Gelasinus* seems also to signify the Hollow of the Cheek, which appears from that Verse of *Martial*;

Nec grata est Facies, cui Gelasinus abest.

"Nor does that Face please, which wants a *Gelasinus*;" though some understand it of the fore Teeth.

GELATINA. A Jelly. These are made of the Juice of ripe Fruit, boil'd with Sugar to a proper Consistence; or of strong Decoctions of Horns, soft Bones, or the Extremities of Animals. Jellies of Fruits are cooling, saponaceous, and acescent; and, therefore, proper in an alcalescent State of the Primæ Viæ, and Juices, especially when dissolv'd in a proper Liquor. On the contrary, Jellies of animal Substances are alcalescent, and good when an Acidity prevails; but are less alcalescent when Lemon-juice and Sugar are added to them. Sometimes Jellies have medicinal Drugs added to them, in various Forms, as Powders and Extracts; and this with various Intentions, and then they are call'd Compound Jellies.

Jelly of Bread is made by boiling well-fermented Bread, or Biscuit, in Water, till it will assume the Form of a Jelly, when cold.

The celebrated *Gelatina Avenæ*, Jelly of Oatmeal, is thus prepar'd:

Take of excorticated Oats, a Pound and an half; of Currants, and Shavings of Hartshorn, each two Ounces; a Leg of Veal, cut, and bruise'd together with the Bones: Let them boil in a close Vessel, with a gentle Heat, a sufficient time; then let the Broth be strain'd, which soon becomes a thick Jelly, a few Spoonfuls of which should be taken every Morning for a considerable time, dissolv'd in a proper Vehicle.

Boerhaave

Boecler recommends this, as admirable in hectic Disorders, if taken with the Broth of Snails, or Craw-fish.

GELATIO. Properly Freezing; but sometimes us'd to express that Rigidity of the Body, which happens in a Catalepsy or a Catalepsy.

GELBUM, GELFUM. The Name of a Marchasite, or rather a Pyrites, found in *Hungary*, and often pregnant with Silver. *Gelbun*, or *Geldum*, is also a Name for the Philosophers Stone, in *Theat. Chym. Vol. 4. p. 727.*

GELION. A Leaf. *Rulandus.*

GELIOS, γελος, Laughter, is defin'd a Motion, by the Contraction of the Lips, and a sonorous and broken Expiration, expressive of Mirth. In a preternatural State, Laughter is a Species of Convulsion, or convulsive Spasm, like that proceeding from the Use of the poisonous Sort of Apium, call'd *Sardon*, growing in *Sardinia* (see *SARDONIUS*), an Abuse of Saffron, or an Inflammation of the Diaphragm. Laughter is also a frequent Symptom in Hysterics.

GELSEMINUM. A Name in *Ray*, for several Species of *Jasminum*.

GELUTA. The Carline Thistle.

GEMELLI.

There are two small flat narrow Muscles, situated almost transversely one above the other, between the Tuberosity of the Ischium and the great Trochanter, immediately below the Pyriformis, and parted by the Tendon of the Obturator Internus.

The superior and smallest Gemellus is fix'd to the lower Part of the Spine of the Ischium, to the superior Part of the small ischiatic Notch, and to a rough Line which runs cross the Outside of the Ischium, beginning from the Spine, and continued under the Acetabulum, where it is bent downward.

The inferior and largest Gemellus is fix'd to the superior and back Part of the Tuberosity of the Ischium, and to a rough Impression, which runs cross the Outside of the Ischium, from the lower Extremity of the ischiatic Notch, and is bent upward toward the other Line, together with which it forms a sort of irregular Semicircle.

Both these Muscles have likewise a small Insertion in the Inside of the Ischium, where, being united together by a particular Membrane, one of them joins the upper Side, and the other the lower Side of the Obturator Internus, a little after it is pass'd over the Notch: They inclose it as in a Bag, and continue to be fix'd to it by fleshy Fibres all the Way to its Extremity.

The superior Muscle terminates wholly with the Tendon of the Obturator Internus; but the Inferior, being broader, is inserted likewise, by fleshy Fibres, in the orbicular Ligament, and under the Tendon of the same Obturator. *Winslow.*

GEMONIS, γεμωνις, from γέμω, to be full or pregnant. A Stone, the same as the *Ætites*.

GEMURSA. The Name of a Disease known to the Antients, as *Pliny* says, *Lib. 36. Cap. 1.* but extinct in his Time; it was an Excrescence between the Toes.

GENA, γένυς. That Part of the Face between the Nose and Ears. See *CAPUT*.

GENEIAS, γένειος. The downy Hairs which first cover the Cheek; also the Name of a Bandage, which comes under the Chin. *Gal. de Fasciis.*

GENEION, γένειον. The same as *ANTHEREON*; which see.

GENER. A Name for the Philosophers Stone. *Theat. Chym. Vol. 4. p. 727.*

GENERATIO, Generation.

The Parts of Generation proper to Men may be fitly divided into those which prepare and separate the Seed from the Blood, and those which convey it into the Womb. The first is done by three sorts of Glands, which are the Testes, the Vesiculæ Seminales, and the Prostatæ. The second is the Office of the Penis.

The Testes, which prepare the principal Part of the Seed, receive their Blood from two long and slender Arteries, see *Tab. XVI. Fig. 1. F F*, which, at their Rise from the Sides of the Aorta, a little below the Emulgent, are extremely small, but immediately become larger. As these Arteries run between the Duplication of the Peritonæum, to which they give some small Twigs, they pass out of the Abdomen, at the Holes in the transverse and oblique Muscles, and march over the Os Pubis, within the Productions of the Peritonæum, to the Testicles; but, before they arrive, they divide each into two Branches, the largest of which are spent upon the Testicles themselves, and the two small ones upon the Epididymides. When the Blood has discharged itself of the Seed into the Testicles, it returns by the Veins, which, rising in several Branches from the Testes, tend towards the Abdomen, in the Productions of the Peritonæum, the same Way the Arteries come down. In their Progress, their Branches frequently inosculate, and divide again, till they come near the Abdomen, when they all unite into one Trunk; and therefore, because of their Shape, they are call'd *Corpora Pyramidalia*: In the Abdomen they receive some small Twigs from the

Peritonæum. The Right spermatic Vein opens into the Vena Cava, a little below the Emulgent: But the Left is always inserted into the Emulgent of the same Side, that it may not be obliged to cross the Aorta, whose Pulse would be subject to stop the Blood which returns from the Testicles very slowly, by reason of the narrow Orifices of the spermatic Arteries, and the Largeness of the Veins. These Blood-vessels have been call'd the *Vasa Præparantia*.

Having describ'd the Blood-vessels of the Testicles, I come now to their Integuments, which are three; one common, and two proper: The common is the Scrotum, which, besides the Skin, (which is very thin, and full of Blood-vessels) Scarfskin, and Membrana Adiposa, in this Place likewise very thin, its Vesicles being empty of Fat, is compos'd likewise of many fleshy or muscular Fibres, by means of which the Scrotum is contracted, which is reckon'd a Sign of Health. This muscular Lining of the Scrotum is by the *Greeks* call'd *DARTOS*, which see. The Scrotum is divided in the Middle by a thin Membrane, which separates the two Testicles.

The first of the proper Integuments is call'd *Tunica Vaginalis*, or *ἐνδοεπιδιδυμική*, being form'd by the Dilatation of the Productions of the external Membrane of the Peritonæum; its internal Superficies is smooth, its external rough: It contains the *Vasa Præparantia* and *Deferentia*; it embraces loosely the whole Body of the Testicle, adhering to one End of the *Epididymis*. Upon the Outside of this Tunicle runs a Muscle call'd *Cremaster*, from its Office; it arises from the Os Pubis, and, spreading its Fibres upon the Elythroides, it suspends the Testicles, and draws them up in the Act of Generation. See *CREMASTER*.

The second is that which covers immediately the Testicles: It is call'd *Albuginea*, because of its white Colour. It is strong and thick, very smooth and equal. The Branches of the *Vasa Præparantia* are finely wav'd upon it.

The Substance of the Testicles, (see *Tab. XVI. Fig. 1. I I*; and *Fig. 3. 4. and 5.*) which formerly was thought to be a sort of Marrow, is nothing but the Folding of several small and soft Tubes, disposed in such a manner, that if they could be separated from one another, without breaking them, they might be drawn out to a great Length. They run in short Waves from the *Tunica Albuginea* to the Axis of the Testicles, being divided from one another by thin membranous Productions from the inner Side of the *Albuginea*. These Productions unite at the Axis of the Testicle, and form a Cover to some small Tubes, which at one End of the Testicle pierce the *Tunica Albuginea*, and unite into one Canal, which, by several Turnings and Windings upon the upper Part of the Testicles, forms that Body which we call *Epididymis*, cover'd with a thin Production of the *Albuginea*. The same Canal continuing, and ascending from the Extremities of the *Epididymides*, forms the *Vasa Deferentia*, one from each *Epididymis*, (*Fig. 3. H*) about the Bigness of a Goose-quill: As they ascend within the *Tunica Vaginalis*, they make several short Turnings and Windings; then they enter by the Holes of the transverse and oblique Muscles into the Abdomen, and, marching over the Ureters, between the back Side of the Bladder and the Rectum, they grow larger as they approach the *Vesiculæ Seminales*, (with which they communicate) where they come close to one another; and, growing again smaller and smaller, they pass through the Prostatæ, and open into the Urethra, a little below the Neck of the Bladder, (see *Tab. XVI. Fig. 2. 3. 3.*) where each Orifice has a spongy Border, call'd *Caput Gallinaginis*, which hinders the involuntary Running of the Seed; see *DEFERENTIA VASA*. The Testicles have many Lympheducts, which discharge themselves into the inguinal Glands. Their Nerves come from the Intercostal, and twenty-first of the Spine.

The spermatic Arteries convey the Blood from the Aorta to the Testicles, which separate that Part of it which is fit for Seed. The Veins carry back to the Cava what Blood remains, after the Secretion of the Seed. The Seed is farther purify'd in the *Epididymides*, and in Coition is carried by the *Vasa Deferentia* into the Urethra. As the narrow Orifices, and great Length, of the spermatic Arteries, (which give time to the slow moving Particles of the viscous Seed to combine and unite) the Particles which compose the Seed, being gross, all the smaller Particles of the Blood must enter the Tubes with them; and therefore, that none but the Particles of the Seed might arrive at the *Vas Deferens*, it was necessary, that the Tube of the Gland should be long, having many smaller Branches, to convey off all the lesser Particles, which were not to enter into the Composition of the Seed. Many of these Particles must be lymphatic, because of the great Proportion they bear in the Blood; and therefore we find, that the Testicles, as well as the Liver, have a Multitude of the lymphatic Vessels. The Reason of the Length of the *Vasa Deferentia* is, that the Impetus of the Seed at the *Caput Gallinaginis* might not be sufficient to dilate the Orifices of the *Vasa Deferentia*, but when assisted with the Compression of the surrounding Parts in Copulation.

The

The *Vesiculæ Seminales* (Tab. XVI. Fig. 2. 4. 4. and Fig. 6. F F) are two in Number, one on each Side, situated betwixt the Bladder, and the strait Gut, tied to the one and the other by a Membrane of fleshy Fibres, which in time of Coition, contracts and presses the Vesiculæ: They are cover'd with a pretty thin Membrane, upon which creep many Branches of Veins, Arteries, Nerves, and Lymphatics. Their external Surface resembles rather that of the Brains, than that of the Guts of a little Bird: They are about two Fingers-breadth long, their broadest Part is not an Inch, from which they grow narrower, by little and little, to their End, which is next the Prostatæ. They have two considerable Cavities divided into membranous Cells, which open distinctly by two Orifices, which are in their small Extremities, into the two *Vasa Deferentia*, from which they receive the Seed, which is separated in the Testicles, to be kept till Coition.

The *Prostatæ*, or *Corpus Glandulosum*, (Fig. 6. G G) is a conglomerate Gland, situated at the Neck of the Bladder, covered with a Membrane made of muscular Fibres, as that of the Vesiculæ, and for the same Use: It is about the Bigness of a Walnut. The *Vasa Deferentia* pass through its Substance, which is vesicular and glandulous. The Glands (which like little Grains lie upon the Sides of the Vesicles) separate a clear and mucilaginous Humour, which lies in the Vesicles till Coition, when it is carried into the Beginning of the Urethra, by eleven or twelve excretory Ducts, which open about the Orifices of the *Vasa Deferentia*; the Border of their Mouth is all spongy, to prevent a continual Running of this Humour, which happens in a Gonorrhœa, when their Orifices are corroded by the morbid Matter.

The other principal Member of the Parts of Generation is the Penis, whose Shape and Dimensions are pretty well known. Its Skin, (Fig. 6. M M) which is thin, and without Fat, has a Reduplication (N N), which makes a Hood to the Glans, or End of the Penis, call'd *Præputium*, or the Foreskin. The small Ligament, by which it is tied to the under Side of the Glans, is call'd *Frænum*. The Use of the *Præputium* is to keep the Glans soft and moist, that it may have an exquisite Sense.

The Substance of the Penis is compos'd of two spongy Bodies, call'd *Corpora Cavernosa*; they arise distinctly from the lower Part of the Os Pubis. A little from their Root they come close together, being only divided by a Membrane, which at its Beginning is pretty thick, but, as it approaches the End of the Penis, it grows thinner and thinner, where the *Corpora Cavernosa* terminate in the Middle of the Glans.

The external Substance of these spongy Bodies is hard, thick, and white. The internal is compos'd of small Fibres and Membranes, which form a sort of loose Net-work, upon which the Branches of the Blood-vessels are curiously spread. When the Blood is stop'd in the great Veins of the Penis, it runs through several small Holes in the Sides of their capillary Branches into the Cavities of the Net-work, by which means the *Corpora Cavernosa* become distended, or the Penis erected.

Along the under Side of the *Corpora Cavernosa*, there runs a Canal, called the Urethra, (Fig. 6. I I H) which is about twelve or thirteen Inches long, beginning at the Neck of the Bladder (from which it receives the Urine); it bends to the lower Part of the Os Pubis, and, turning up to the Roots of the *Corpora Cavernosa*, is continued to the End of the Penis. The Sides of this Canal are compos'd of two Membranes, and a middle spongy Substance, like that of the *Corpora Cavernosa*, except at the End, which joins the Neck of the Bladder, where the Distance between the Membranes is small, and fill'd up with a thin and red glandulous Substance, whose excretory Ducts, piercing the inner Membrane, pour into the Canal a mucilaginous Liquor. The external Membrane is hard, close, and white; the internal, which lines the Cavity of the Urethra, is thin, soft, and of an exquisite Sense. The spongy Substance, which lies between the two Membranes, is about half a Line thick next to the *Corpora Cavernosa*, one half Line round the rest of the Canal. The Extremities of this spongy Substance are much thicker than in the Middle: That End next the Prostatæ, because of its Bigness, is call'd the Bulb of the Urethra (H), being about half an Inch thick, and divided in the Middle by a thin Partition, as the *Corpora Cavernosa* are. The other End forms the Glans or Balanus upon the Extremities of the *Corpora Cavernosa*. The Veins in the Urethra have Holes in their Sides, through which the Blood passes into the Cavities of its Net-work, in an Erection, as in the *Corpora Cavernosa*.

On each Side of the Bulb of the Urethra, there lies a small Gland, whose excretory Duct, sloping forwards, pours into the Urethra a viscous and transparent Liquor, which defends it against the Acrimony of the Salts of the Urine: And, on the opposite Side of the Urethra, upon its internal Membrane, a little nearer the Glans, there is another small Gland, which has the same Office. These Glands were first observ'd by that

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diligent Anatomist, Mr. Cowper. At the other End of the Urethra, round the Crown of the Glans, where it joins the *Præputium*, is a Row of small Glands, like those of the Cilia, called, by that accurate Anatomist, Dr. Tyson, *Glandulæ Odoriferæ*: They separate a Liquor, which lubricates the Glans, that the *Præputium* may slip easily upon it.

The Penis has a small Ligament, which arises from its Back, a little Distance from its Root, which ties it to the upper Part of the Os Pubis, that it may not hang too low: It receives two Branches of Veins and Arteries from the hypogastric Vessels, besides others from the Pudenda. The two Veins unite near its Roots, and form one Trunk, that runs along the upper Side of the Penis. It has two Nerves from the Os Sacrum, and several Lymphatics, which empty themselves into the inguinal Glans.

The Penis has three Pair of Muscles: The first is the *Erectores*, (Tab. XVI. Fig. 1. M M) by some called *Directores*, and by *Spigelius*, *Collaterales Penis*. They arise fleshy from the external Knob of the Os Ischium, below the Beginnings of the cavernous Bodies of the Penis, in whose thick Membrane they are inserted. When these Muscles act, they pull the Penis towards the *Os Pubis*, whereby its great Vein is compressed, and the reflux Blood denied its Passage under those Bones, by which means the Penis is erected. The second are the *Acceleratores*, which see. The third Pair are the *Transferales*; they arise from the Ischium, just by the *Erectores*, and run, obliquely, to the upper Part of the Bulb of the Urethra.

The external Parts of Generation in Women are the *Vulva*, or great Chink, situated below the Os Pubis, and cover'd with Hair; above this there is a little Swelling, made by some Fat, under the Skin, which is call'd *Mons Veneris*. The *Labra*, or Lips, of the great Chink, (Tab. XVI. Fig. 7. ii) are only the Skin, swell'd by some Fat underneath: These being a little separated, there appear the Nymphæ, (ff) one on each Side of the Chink; they are two small Pieces of Flesh, resembling the Membranes that hang under the Throats of Pullets. Their internal Substance is spongy, and full of Blood-vessels; therefore they swell in the Act of Generation; they receive Vessels and Nerves as the Clitoris; their Use is, to defend the internal Parts from external Injuries; to increase Pleasure; to direct the Course of the Urine: They are bigger in married Women than in Maids. In the Angle of the great Chink next the Os Pubis, is the Extremity of the Clitoris (e), cover'd with a little Hood of the Skin call'd *Præputium* (d); see CLITORIS. A little deeper, in the same Side of the Vulva, there is a little Hole, which is the Orifice of the Neck of the Bladder (g). On the opposite Side, next the *Anus*, are the *Glandulæ Myrtiformes*, situated in the *Fossa Magna*, or *Navicularis*; and, in this Angle of the Chink, there is a Ligament, call'd the Fork, which is torn in the first Birth.

The Hymen is a circular Folding of the inner Membrane of the Vagina, which being broke in the first Embraces, its Fibres contract in three or four Places, and form what they call *Glandulæ Myrtiformes*.

A little beyond the Clitoris, in the fore Part of the Vulva, above the Neck of the Womb, there is a little Hole, which is the Orifice of the Urethra (Fig. 7. g). It is naturally so large as to receive a Probe as big as a Goose-quill. The Length of the Neck of the Bladder is near about two Fingers-breadth: It has a little Muscle, call'd its Sphincter, which embraces the Urethra, to hinder the involuntary running of the Urine; it joins the fleshy Fibres, which are at the Orifice of the Vagina.

Between this Muscle, and the inner Membrane of the Vagina, there are several little Glands, whose excretory Ducts are call'd *Lacunæ*: They pour a viscous Liquor into the lower Part of the *Vulva*. These Glands are the Seat of Gonorrhœas in Women, as the Prostatæ are in Men (according to Keil); and have the same Use that they have. They have been found all ulcerated in Women who have had a Gonorrhœa.

The Vagina, (Tab. XVII. Fig. 3. Numb. 7.) or Neck of the Womb, is a long and round Canal, which reaches from the Pudendum, to the internal Mouth of the Womb. In Maids, 'tis about five Fingers-breadth long, and one and an half wide; but, in Women who have born Children, its Length and Bigness cannot be determin'd; because it lengthens in the time a Woman is with Child, and it dilates in the time of Birth. It lies betwixt the Bladder and the Rectum; with which last it is wrapt up in the same common Membrane from the Peritoneum; for this Reason, the Excrements come out sometimes by the Vulva, when this Intestine is wounded.

The Substance of the Vagina is compos'd of two Membranes, of which the inner, which lines its Cavity, is nervous, and full of Wrinkles and Sulci, especially in its fore Part. It has three or four small Glands on that Side next the Rectum, which pour into it a viscous Humour in the Time of Enjoyment.

The Wrinkles of this Membrane are for the Friction of the *Balanus*, to increase venereal Pleasure; to detain the Seed,

Seed, that it run not out again ; and that it may extend in the Time of Gestation.

The external Membrane of the Vagina is made of muscular Fibres, which (as Occasion requires) dilate and contract, become long and short, for adjusting its Cavity to the Length and Bigness of the Penis. At its lower Part, there is a Muscle of circular Fibres, like a Sphincter, and under it, on each Side of the Vagina, a Net-like Plexus of Blood-vessels, which, with the Muscle, helps to straiten the Mouth of the Vagina, that it may grasp the Penis closely.

The Neck of the Womb receives Veins and Arteries from the hypogastric and hæmorrhoidal Vessels. Those from the hypogastric are dispers'd in its upper Part, and those from the hæmorrhoidal in its lower Part. These Vessels communicate with one another. It has Nerves from the Os Sacrum. Among other Uses, the Neck of the Matrix serves for a Conduit to the Menstrua, and for a Passage to the Fœtus.

The Matrix or Womb (*Tab. XVII. Fig. 3. Numb. 1.*) is situated in the lower Part of the Hypogastrium, betwixt the Bladder and the strait Gut ; the Os Pubis is a Fence to it before, the Sacrum behind, and the Ilium on each Side ; these form, as it were, a Basin for it ; but, because it must swell whilst Women are with Child, therefore they leave a greater Space in them than Men ; it is, for this Reason, that Women are bigger in the Haunches than Men.

The Figure of the Womb is like a Pear, from its internal Orifice to its Bottom ; 'tis three Fingers long, two broad, and almost as much thick. In Maids, its Cavity will contain a large Almond. It changes both Figure and Dimensions in Women that are with Child ; it presses the Bowels, and reaches to the Navel, towards their Delivery ; whilst, at other times, it does not pass the Os Sacrum.

The Womb is cover'd with the Peritonæum. Its Substance is compos'd of fleshy Fibres, which are woven together like a Net, and they draw together, and make several Bundles, which have several Directions, for the better contracting the Womb in the Expulsion of the Fœtus. The Spaces between these Fibres are fill'd up with thin and soft Membranes, which form an infinite Number of Cells, upon which the Blood-vessels run, turning and winding frequently. Upon these Membranes, especially towards the Cavity of the Womb, there are several Glands, which separate an Humour to lubricate the Cavity of the Womb.

The Bottom of the Womb grows thick, as it dilates, so that in the last Months of Gestation, 'tis at least an Inch thick, where the Placenta adheres ; because its Roots run into the Substance of the Womb.

The Entry into the Cavity, or the Mouth of the Womb, joins the upper End of the Vagina, and makes a little Protuberance, in the Form of Lips, and resembles the Muzzle of a little Dog ; by some it is call'd Os Tincæ (*Tab. XVII. Fig. 3. Numb. 5.*). The Cavity of the Womb, next its internal Orifice, being more contracted than it is near its Bottom, is call'd *Collum minus Uteri*. Its Surface is unequal, and among the Rugæ open several small Duets, which discharge a glutinous Liquor, to seal up the Mouth of the Womb in Gestation. These Duets are affected in a *Fluor albus*.

The Veins and Arteries of the Womb are Branches of the hypogastric and spermatic Vessels, whose larger Ramifications inosculate with one another ; the spermatic Artery, with the hypogastric, and the Vein with the Vein, as also the Branches of one Side of the Womb with those of the other. When the Term of Accretion draws to a Period, and the Blood, which us'd to be spent in the Increase of the Body, being accumulated, distends the Vessels, it breaks forth once a Month, at those of the Womb ; because, of all the Veins of the Body, which stand perpendicular to the Horizon, these only are without Valves. This Evacuation is call'd the *Menstrua*, to which Men, for the same Reason, are subject ; but in them the redundant Humour passes off by Urine, as *Sanctorius* observes, and rarely by the hæmorrhoidal Veins.

Its Nerves come from the Intercostals, and from those which come from the Os Sacrum. There are, also, several Lymphatics upon its Outside, which unite, by little and little, into greater Branches, and discharge themselves into the Reservatory of the Chyle. All the Vessels of the Womb creep upon it by many Turnings and Windings, that they may not break when it is distended.

The Womb is tied by two Sorts of Ligaments ; by two broad, call'd *Ligamenta Lata* (*Tab. XVII. Fig. DD*) ; and by two round, call'd *Ligamenta Rotunda* (*Tab. XVII. Fig. 3. Numb. 66.*). The two broad Ligaments are only a Production or Continuation of the Peritonæum from the Sides of the Womb. For their Largeness and Figure, they are commonly compar'd to the Wings of a Bat. The Ovaria are fasten'd to one End of them, and the *Tubæ Fallopianæ* run along the other.

The two round Ligaments rise from the fore and lateral Part of the Bottom of the Womb, and pass, in the Productions of the Peritonæum, through the Rings of the oblique and trans-

verse Muscles of the Abdomen to the Os Pubis, where they expand like a Goose-foot, and are partly inserted in the Os Pubis, and partly continu'd or join'd to the *Musculus Membranosus*, or *Fascia Lata*, on the upper Part of the Inside of the Thigh ; from thence comes the Pain that Women, big with Child, feel in this Place. The Substance of these Ligaments is hard, but cover'd with a great Number of Blood-vessels ; they are pretty big at the Bottom of the Womb, but they grow smaller and flatter as they approach the Os Pubis.

The spermatic Vessels, in Women, are four, as in Men : they differ only in this, that they are shorter, and the Artery makes several Turnings and Windings, as it goes down ; that it divides into two Branches, of which the smallest goes to the Ovarium ; the biggest divides into three more, of which one is bestow'd upon the Womb, another upon the Vagina, and the third upon the Ligaments of the Womb, and *Tubæ Fallopianæ* : 'Tis the same as to the Vein.

The Ovaria are tied, about two Fingers Distance from the Bottom of the Womb, by the *Ligamenta Lata*. They are fix'd to the Peritonæum at the Iliā, by the spermatic Vessels. They are of an oval Figure, a little flat upon their upper Part, where the spermatic Vessels enter.

The Ovaria, or Testicles, (*Tab. XVII. Fig. 3. Num. 4. 4.*) are near half as big as Mens are ; their Surface is unequal and wrinkled, in old Women, but smooth and equal in Maids ; they are cover'd with a proper Membrane, which sticks close to their Substance, and with another common from the Peritonæum, which covers all the spermatic Vessels. Their Substance is compos'd of Fibres and Membranes, which have little Spaces, in which there are several small Vesicles, round, and full of Water, which, being boil'd, hardens like the White of an Egg ; they have each of them two proper Membranes, upon which there are several small Twigs of Veins, Arteries, and Nerves. These Vesicles are called Eggs, and they are of a different Size and Number, in Women of different Ages. We observe, in Cows, that such of them as are impregnated, after Copulation, are contain'd in, or cover'd all over with, a yellow Substance, which has a small Hole in its Side, through which they are thrust, when they fall into the *Tubæ Fallopianæ* : Besides the spermatic Vessels, the Ovaria have Nerves, from the Intercostals and Lymphatics, which discharge themselves into the common Receptacles.

The *Tubæ Fallopianæ* (*Tab. XVI. Fig. 7. E G ; Tab. XVII. Fig. 1. E E ; Fig. 2. G G ; and Fig. 3. Num. 2. 2.*) are situated on the Right and Left Side of the Womb ; they rise from its Bottom by a narrow Beginning, and they dilate in form of a Trumpet, to their Extremities, where they are contracted again into a small Orifice, from whose Circumference they dilate into a pretty broad Membrane, which looks as if it were torn at its Edges, therefore call'd *Morsus Diaboli* (*Tab. XVII. Fig. 1. F F ; and Fig. 3. Num. 3. 3.*). Their Cavity, where they open into the Womb, will scarcely admit of a Hog's-bristle ; but, at its widest Part, it will take in the End of one's little Finger. Their Substance is compos'd of two Membranes, which come from the external and internal Membranes of the Womb. The Tubes are about four or five Fingers-breadth long ; they have the same Veins, Arteries, Nerves, and Lymphatics, as the Ovaria. These are all the Parts of Generation in Women. See the Explications of *Plate XVI. and XVII.*

So great is the Pleasure in the Act of Generation, that it alters the Course of the Blood, and animal Spirits, which then move all the above-described Parts, which before lie quiet, and at Rest. The *Clitoris* is erected, which, by its exquisite Sense, affords a great deal of Delight ; the Glands about the Neck of the Womb, being pressed by the Swelling of the neighbouring Parts, pour forth a Liquor to facilitate the Passage of the *Penis*, and to increase the Pleasure. The Neck of the Womb contracts, and embraces closely, the *Penis* ; the Fibres of the Womb contract, and open its Mouth (which, at other times, is extremely close) for the Reception of the spirituous Part of the Seed ; and the Branches of the spermatic Artery, which run upon the *Ligamenta Lata*, between the *Ovaria* and the *Tubæ Fallopianæ*, being distended with Blood, contract and pull the Extremities of the Tubes to the Ovaria, for conveying the Seed to them. The Seed impregnates the Egg, which, from being transparent, becomes opaque ; some time after, 'tis cover'd with a thick and yellow Substance, which presses it on all Sides, and thrusts it out through a little Hole in its Middle ; so it falls into the Orifice of the Tubes, which dilate sufficiently for its Passage into the Womb.

Some, partly considering the Closeness of the Mouth of the Womb, and partly the Thickness of the Membranes of the Ovaria and Ova, judge it impossible for the Seed to pass this Way ; therefore they think, that it is taken up by the Veins, which open in the Cavity of the Vagina and Matrix, where, circulating, it ferments with the Mass of Blood ; from thence come all those Symptoms, which appear upon Conception : It enters and impregnates the Egg, by the small Twigs of Arteries which are upon its Membranes. This Fermentation swells the Membranes of the *Tubæ*, opens the Cavity of the Womb,

Womb, and makes every thing ready for the Reception of the Egg.

The great and many Difficulties which attend the most plausible Account of the first Formation of the Parts of an Animal, and Beginning of Motion in its Fluids; and the nice and curious Observations of *Redi*, and *Leeuwenhoeck*, and others, have been sufficient Motives to most of the Moderns, to throw off the Notion of equivocal Generation. But though both Reason and Experiments convince us, that all the Parts of an Animal did exist, and its Fluids were in Motion, before Generation; yet whether the Animalcule was lodg'd in the Seed of the Male or Female Ova, is matter of Controversy. The Arguments, strongly alleg'd on both Sides, persuade me of the Truth of what *Dr. Garden* says, that the Female Ovum is a proper Nidus for the *Animalcula in femine*. It is amazing to see the prodigious Number of little Creatures, like so many Tadpoles, swimming, every Way, in the Male Sperm of all Animals: Nor is it less curious to observe their languid Motion, in such as are pox'd, and how they recover their former Briskness, as the Distemper abates. *Leeuwenhoeck* tells us of one whose Wife, for some Years, did not conceive, because there were no Animalcula to be found in his Seed, there being no other sensible Hindrance on either Side. These Animals are so small that 3000000000 of them are not equal to a Grain of sand, whose Diameter is but the hundredth Part of an Inch. Whilst the Seed thus abounds with Animalcula, there are not the least Rudiments of an Animal to be seen in any Part of the Ovaria: Yet these, likewise, have a principal Part in Generation; for without them there is no Conception; and even Bitches, which have been spay'd, forget their usual Appetites, as if they were the only Spurs to Veneri. The yellow Substance, which grows in the Ovaria of Cows, upon Conception, is very remarkable; it has a small Dint, and a Cicatrix, in its Middle, as if the Ovum had dropt out there (as *Malpighi* thinks). When the Fœtus is very small, I have observ'd it very large; but, as the Fœtus grows bigger and bigger, this dries; and, I think, at last, even vanishes: Nor is it to be seen before Conception, and in one Testicle only, when there is but one Calf. If all the Animalcula, or a great many of them, did fasten and grow to the Womb, till such time as by their Bigness, or want of Nourishment, they made one another drop off, (as *Leeuwenhoeck* thinks) Women could not but be sensible of their Evacuation; for they must be falling off, through the whole Time of their being with Child: But when the Animalcula gets into an Ovum fit to receive it, and this falls through one of the *Tubæ Fallopianæ*, into the Womb, the Humours which distil thro' the Vessels of the Womb, penetrating the Coats of the Egg, swell and dilate it, as the Sap of Earth does Seed, thrown into the Ground: Or else the Branches of the Veins and Arteries, whereby the Egg was tied in the Ovarium, (which, probably, make the umbilical Vessels) being broken, fallen with the Vessels of the Womb; then the Placenta begins to appear like a little Cloud, upon one Side of the external Coat of the Egg; and, at the same time, the Spine of the Embryo is grown so big, as to be visible; and, a little after, the Cerebrum and Cerebellum appear like two Bladders; and the Eyes, next, stand goggling out of the Head; then the Beating of the Heart, or *Punctum Saliens*, is plainly to be seen; and the Extremities discover themselves last of all.

Now the Membranes, which involve the Fœtus, are the same with the Coats of the Egg: The external is called *Chorion*; it is pretty thick, and a little rough on its Outside, to which the Placenta adheres: It embraces the *Amnios*, or internal Membrane, which is a fine and delicate Bag, full of a clear Liquor, in the Middle of which the Fœtus swims. The Liquor is separated, for the Nourishment of the Fœtus, by the Glands of the *Amnion*, from its Blood-vessels, which are fine Branches of the umbilical Veins and Arteries.

The Arteries rise from the Extremity of the Aorta, or the Beginning of the Iliacs of the Fœtus; and, passing by the Sides of the Bladder to the Navel, through which they pass, they give some Branches to the *Amnion* and *Chorion*, and are afterwards divided into an infinite Number of Branches in the Placenta. The Vein rises by several Roots or Branches, which are spread through all the Substance of the Placenta; it enters the *Chorion* and *Amnion*, to which it gives several Twigs; and, passing in at the Navel, it joins the *Vena Portæ*, in the Substance of the Liver.

The umbilical Vessels, between the Navel and the Placenta, are wrapt up in Productions of the *Chorion* and *Amnion*, which is generally about a Foot and an half long, that the Motion of the Fœtus might not pull the Placenta from the Womb. The Use of this Navel-string is, to carry the material Blood, by the Veins, to the Fœtus, for its Nourishment: That which is unfit for this Use, is carried back, by the Arteries, to the Placenta, whilst the Fœtus is still supplied with more, by the Vein; so that there is a continual Circulation betwixt the Mother and the Fœtus.

Now, the Placenta is a thick Cake, which grows upon the Outside of the *Chorion*, in proportion as the Fœtus grows; it

is of a circular Figure; at its biggest, it is about two Fingers-breadth thick, and six or seven in Diameter. The Branches of the umbilical Vessels are spread through all its Substance; and, indeed, it seems to be nothing else but a Texture of the Vein and Arteries, by whose Extremities, opening into the Sides of the hypogastric Vessels, the Circulation is perform'd between the Mother and the Fœtus; for that Side of the Placenta, which adheres to the Womb, appears to be nothing but the Extremities of an infinite Number of small Threads, which, in Labour, dropping out of the Pores in the Sides of the hypogastric Blood-vessels, into which they had insinuated themselves, is the Occasion of the Flowing of the Lochia, till the Uterus collapses, or the Pores, by the natural Elasticity of the Vessels, contract by degrees. Sometimes Twins have only one common Placenta, and sometimes they have each a distinct one.

Besides these Membranes which involve the Fœtus, there is another, which lies between the Chorion and the Amnion, on the opposite Side to the Placenta, in the Form of a Bag, call'd the ALLANTOIS; which see.

The Fœtus is almost of an oval Figure, whilst it lies in the Womb; for its Head hangs down with its Chin upon its Breast; its Back is round; with its Arms it embraces its Knees, which are drawn up to its Belly; and its Heels are close to its Buttocks, its Head upwards, and its Face is towards its Mother's Belly. But, about the ninth Month, its Head, which was always specifically lighter than any other Part, becomes specifically heavier, its Bulk bearing a much smaller Proportion to its Substance, than it did; and, consequently, it must tumble in the Liquor which contains it; so its Head falls down, its Feet get up, and its Face turns towards its Mother's Back: But because then it is an irksome, though favourable Posture for its Exit, the Motion it makes for its Relief, gives frequent Pains to its Mother, which causes a Contraction of the Womb, for the Expulsion of the Fœtus.

I have above given the prevailing Opinion, with respect to Generation, as collected by *Dr. James Keil*; but I must confess, that neither this, nor any System I have yet met with, gives me the least Satisfaction; but, on the contrary, all of them appear full of Absurdities, and the Whole of Generation to be involv'd in Difficulties, at present in no Degree clear'd up, notwithstanding all the Pains that have been taken about it. *Leeuwenhoeck*, as observ'd above, by the Help of his Glasses, discover'd Animalcula in the Seed of all Male Animals; whence he, and his Followers, deduc'd a new System of Generation, as it should seem, utterly romantic, and inconsistent with the Conduct of Providence, observable in all natural Productions. Thus, for Example, if 3000000000 Animalcules should be included in a Quantity of Male Sperm sufficient for the Production of one Animal only, provided the Animal is produc'd by one of these Animalcules, all the rest are superfluous, and created for no End, but to be immediately destroy'd: Besides, we must suppose, that Providence aims very ill, if oblig'd to load her Engine so enormously, in order to be able to hit the Mark propos'd. But in all other Instances we find, that the Author of Nature perpetually adapts much less compounded Means, in order to arrive at the desin'd Ends. We have, therefore, great Reason to believe, that the Generation of Animals is not the only thing neglected, and accomplish'd in a Manner extremely unartificial.

With respect to these Animalcula, I must observe, that they really exist, and are easily visible by the Help of Glasses; but never, so far as I have been able to observe, whilst the Sperm is fresh, and uncorrupted. But, in a very short time, the Sperm of Animals corrupts, and then the Animalcules appear, and, I believe, not before.

Something analogous to this happens to the Seed of Vegetables. Wheat, for Example, ground down into Meal, whilst fresh, exhibits no Animalcules; but, when mixt with Water into a Paste, and corrupted, great Numbers of Animalcules are discoverable in it by Glasses. Now it seems to be equally probable, that the Animalcules observable in Wheat, the Seed of a Vegetable, should be the Rudiments of the future Blade of Corn, as that the Animalcule in the corrupted Sperm of an Animal should be necessary to the Production of an Animal similar to its Parent.

GENEROSUS. An Epithet in Medicine, signifying the same as vehement, potent, efficacious. *Castellus*.

GENESIS, γενεσις. The same as GENERATIO.

GENETHLIACUS, γενεθλιακος, was formerly a kind of Prophet, as appears from *Galen, Com. 1. in Lib. de R. P. I. A.* but is now appropriated to modern Astrologers, who pretend to cast Nativities. *Castellus*.

GENETTA, call'd also the Spanish Cat, is a Beast of a less Size than a Fox, and much valued for its Skin. It lives in marshy and watery Places in Spain, and its Fat, which is us'd in Medicine, is a Dissolvent, and friendly to the Nerve. *Lemery des Drogues*.

GENICULATUS, geniculated, from *Geniculum*, a Joint, or Knot, is spoken of such Plants, or their Parts, which are divided by Joints.

(G).

GENICULUM, GENICULUS. See the preceding Word.

GENIOGLOSSI *Musculi*.

This, with its Partner, lies immediately under the Genio-Hyoidæus. They arise fleshy from the fore Part of the lower Jaw internally; and, enlarging themselves, are inserted in the Root of the Tongue.

When these act, they pull the Tongue forwards, and thrust it out of the Mouth.

GENIO-HYOIDÆUS.

This, with its Partner, are short, thick, and fleshy Muscles, arising from the internal Parts of the lower Jaw-bone, call'd the Chln; and, dilating themselves, are soon less'n'd again, and inserted into the superior Part of the fore Bone of the Os Hyoides.

These, acting, pull the Os Hyoides both upwards and forwards, and assist the Genioglossi in thrusting the Tongue out of the Mouth.

GENIPAT. An Indian Tree, the same with the JANIPABA, which see.

GENISTA. See the common *Genista* or Broom, under the Article CYTISO-GENISTA; but there are several other Sorts of Plants which go by the Name of *Genista*; as the

Genista; juncea, *Boerb. Ind. A. 2.23. Tourn. Inst. 643. Genista Hispanica*, Offic. Ger. 1131. Emac. 1313. Raii Hist. 2. 1726. *Spartium arborecens seminibus Lenti similibus*, C. B. Pin. 396. *Spartium Hispanicum frutex vulgare*, Park. Theat. 231. SPANISH BROOM.

It is common in Gardens, and flowers in June and July; the Parts in Use are the Branches, Flowers, and Seeds; and it agrees in Virtues with the common *Genista*, only is more efficacious. Dale. It is a potent Expeller of pituitous and ferous Humours, both upwards and downwards; for which Reason it is effectual in Dropsies, the Sciatica, and Arthritis; provokes Urine, and breaks the Stone in the Kidneys. The Oil of the Flowers dissolves Tumors of the Spleen, the Part being anointed with it. The Flowers, also, us'd with Honey of Roses, or an Egg, dissolve stumous Swellings. Raii Hist. Plant.

The Flowers and Seeds, drank to the Weight of 50 Grains in Hydromel, work violently by Vomit, after the manner of Hellebore, but with Safety; the Seeds also purge downwards. The Juice of the Branches, first macerated in Water, and then bruis'd, is given with Effect in the Sciatica and Quinsy; the Dose is a Cyathus, fasting. Some macerate the Branches in Brine, or Sea-water, and administer the same in Clysters for the Sciatica; it extracts bloody and strigentitious Abrasions. *Dioscorides, Lib. 4. Cap. 158.*

Genista; hortensis; major Lusitanica. *Vir. Lusi.*

Genista; radiata; five stellaris. *J. B. 399.*

Genista; ramosa; foliis hyperici. *C. B. P. 395.*

Genista; tinctoria; Germanica. *C. B. Pin. 395. Tourn. Inst. 643. Boerb. Ind. A. 2.25. Genistella, Genista tinctoria*. Offic. *Genistella tinctoria*. Ger. 1136. Emac. 1136. Raii Hist. 2. 1725. Synop. 3. 474. *Genista tinctoria vulgaris*. Park. Theat. 228. *Tinctorius flos*. *J. B. 1. 391. GREEN WEED, DYERS WEED.*

It is too frequent in Pasture-grounds, and flowers in June and July. The Herb is in Use, and has an astringent Virtue ascrib'd to it by *Monti*. Dale. As it agrees in Temperament, and outward Appearance, with the common *Genista*, it may very well be suppos'd to have the same Virtues. Raii Hist. Plant.

Genista; tinctoria; Germanica; foliis angustioribus. *C. B. P. 395.*

Genista-spartium; majus; brevioribus aculeis, *Tourn. Inst. 445. Boerb. Ind. A. 2. 24. Nepa*, Offic. *Genista aculeata minor sive Nepa Theophrasti*, Ger. 1140. Emac. 1321. *Genista spinosa minor*, Park. Theat. 1003. Raii Synop. 3. 479. *Genista spinosa major brevioribus aculeis*, C. B. Pin. 394. Raii Hist. 2. 1719. THE LESSER FURZ.

It flowers in Autumn, and the whole Plant is us'd, which agrees in Virtues with the common Broom. Dale.

Genista-spartium; majus; longioribus aculeis, *Tourn. Inst. 645. Boerb. Ind. A. 2. 24. Scorpius*, Offic. *Genista spinosa major*, Ger. 1138. (quoad descript.) *Genista spinosa vulgaris*, Ger. Emac. 1319. Raii Hist. 2. 1729. Synop. 3. 475. *Genista spinosa major longioribus aculeis*, C. B. Pin. 394. *Genista spinosa major vulgaris seu Scorpius Theophrasti, quam Gaza Nepam transulit*, Park. Theat. 1003. *Genistelle spinosa affinis, Nepa quibusdam*, *J. B. 1. 400. FURZ, or GORS.*

This Plant flowers in the Spring, and is every Part of it us'd in Medicine, for the same Purposes as the common Broom. Dale.

3. *Genista-spartium*; Africanum; folio baccis brevioribus; flore luteolo.

4. *Genista-spartium*; minus Anglicum. *T. 645.*

5. *Genista-spartium*; spinosum; majus; tertium hirsutum. *C. B. P. 394.*

6. *Genista-spartium*; montis ventosi. *T. 645.*

GENISTELLA.

The Characters are,

The Parts of the Leaves grow one within another by Articulation.

Boerhaave mentions but one Species of this Plant; which is, *Genistella*; herbacea; five *Chamaespartium*. *J. B. 1. 393.*

There are no medicinal Virtues attributed to this Plant, that I know of.

GENITURA, γεννη, γεννη, Semen, or Seed. Some, from *Aristotle, de Gen. Animal. Lib. 1. Cap. 18.* distinguish between γεννη (*Gone*), and σπέρμα (*Sperma*), making the first the Principle and Cause of Generation in perfect Animals; the other to serve the same Purpose in imperfect Animals and Plants. There are some other Distinctions made between them; but, however, it is certain, that they are us'd promiscuously, and in particular by *Hippocrates, Lib. de Genitura*, as well as *Galen, de Sem. Tons.*, in *Hippocrates de Humid. Usu*, signifies the *Pudendum virile*.

GENIUS, δαιμω, a Genius. *Galen*, in his Book *de Hippocr. & Plat. Decret.* asserts, that God has given to every Person a Genius, which resides in the uppermost Part of the Body, and exalts us from Earth to the Knowledge of celestial things.

GENOS, GENUS, γένος. To omit other Senses of the Word, as not so pertinent to our Purpose, in Botany, is a Class or Order of Plants, agreeing in some common Character, or Structure of Part, distinguishing them from all others. *Trismegistus* makes three *Genera generalissima*, or highest and most universal Orders of Substances, which are Minerals, Vegetables, and Animals. *Theat. Chym. Vol. 1.*

GENSING. See GINGSZENG.

GENTIANA.

The Characters are;

The Leaves are conjugated, or grow in Pairs: The Calyx is monophyllous, membranaceous, and form'd like a Sheath: The Flower is shap'd like a Cup, and is divided into four, five, or, perhaps, seven or eight Segments. The Fruit is unicapsular, oval, acuminate, bivalve, and running out into two Parts like Horns: The Seeds are flat, orbicular, and border'd with a Rim.

Boerhaave mentions seven Species of this Plant; which are,

1. *Gentiana*; major; lutea, *C. B. Pin. 187. Tourn. Inst. 80. Boerb. Ind. A. 204. Park. Parad. 350. Gentiana*, Offic. *Gentiana major*, Ger. 351. Emac. 432. Raii Hist. 1. 716. *Gentiana vulgaris major Ellebori albi folio*, *J. B. 3. 520. GENTIAN.*

The Root of the great Gentian is large, thick, and woody, pretty much divided, of a yellow-brown Colour, and a very bitter Taste; no Part of the Plant besides is us'd in Medicine, and the Root, *Schroder* tells us, should be taken up in August and September. It is extremely bitter, but leaves rather an agreeable than nauseous Gust behind. It deservedly stands at the Head of the Stomachic Class, as it wonderfully warms the Stomach, and excites the Appetite; and also, as it enables it the better to digest what it receives. The Subtlety of its Parts makes it also pass for a Discutient and Aperient, in many Compositions of those Intentions; and likewise for an Alexipharmic, and a great Antidote against many kinds of Poisons, as it wonderfully promotes sensible and insensible Perspiration. For killing and expelling Worms, it is the best in Esteem: And in Surgery, it not only goes for a Discutient, in their Fomentations, but is also us'd, in fine Powder, to Issues, to promote their running; and as a Tent, both to enlarge and cleanse some fistulous Apertures. Some Authors extol this beyond all Credibility, for its alexipharmic Qualities, and rank it almost with the *Peruvian Bark*, in Intermittents. And for this Reason undoubtedly we meet with it in the *Theriaca Andromachi*, and in some other Shop Compositions of the same Intention, although it now ceases to be prescrib'd for such Purposes in extemporaneous Practice. That it very much assists in some Compositions for removing Agues, and some Kinds of Intermittents, I have found by Experience, in many Instances; but it is not to be depended upon alone; and, by its great Subtlety and Heat, if Caution be not us'd, it will inflame in many Cases, rather than abate the Symptoms. With this only, and the outer Rind of Orange-peels, may be made a very good Bitter, in any proper Menstruum.

Official Preparations are, a compound Water, see AQUA; and an Extract, made according to the Rules laid down under the Article EXTRACTUM.

The medicinal Virtue of Gentian was said to be first taken notice of by *Gentius* a King of the *Illyrians*. *Pliny, Lib. 25. Cap. 7.*

The *Decoctum amarum simplex*, in which Gentian is the principal Ingredient, is thus prepar'd:

Take of the Roots of Gentian and Galangal, each one Dram; of the Tops of Roman Wormwood, two Drams; of

of the yellow kind of dry'd Seville Oranges, and of the lesser Cardamom-seeds, each one Dram: Infuse all in a Pint of boiling Water, and, when the Liquor is cold, strain it off.

The *Decoctum amarum solutivum* is prepar'd in the following Manner:

Take of the Tops of the lesser Centaury, and of Chamomile-flowers, each one Pupil; of Gentian-root, half a Scruple; of Rhubarb, one Dram; of Sena-leaves, sufficiently cleans'd, and of the Seeds of Cardus Benedictus, each one Dram; of the lesser Cardamoms, half a Dram: Infuse in five Ounces of boiling Water, and strain off the Liquor. *Pharmacop. Londin.*

2. Gentiana; Aclepiadis folio, C. B. P. 187. *J. B. 3. 723. Raii Hist. 1. 717. GENTIAN WITH SWALLOW-WORT-LEAVES.*

It grows plentifully in *Stiria, Hungary, and Lower Austria*, at the Foot of Mountains, and on shady Hills, but never on the open Tops.

The Peasants of *Silavonia* say, they drink the Decoction of the Root, with good Success, for the Stone: And *Aretius* and *J. Simlerus* inform us, that the Farmers make use of it to cure the Udders of their Cows, when bit by the Shrew-mouse, or other poisonous Animals, *Raii H. P.*

3. Gentiana; cruciata, Offic. C. B. P. 188. *Raii Hist. 1. 717. Tourn. Inst. 81. Boerb. Ind. A. 205. Gentiana minor cruciata, Park. Parad. 350. Ger. 351. Emac. 433. Gentiana minor seu vulgi cruciati, J. B. 3. 522. CROSSWORT GENTIAN.*

It grows in all Parts of *Hungary*, both on the open and grassy Hills and Mountains, and in the dry and green Meadows.

The Roots of this Species are extol'd by the Moderns against the Pestilence, and the Bites of venomous Creatures. *Matthiolus* affirms, that the Root bruised, and apply'd to the Belly by way of Cataplasm, is an experienced Remedy against the Worms of the Intestines; and that the Plant newly digged up, and bruised in the same manner, or dry'd and pulveriz'd, is effectual in curing strumous Ulcers. *Raii H. P.*

4. Gentiana; Alpina; flore magno, *J. B. 3. 523. Tourn. Inst. 80. Boerb. Ind. A. 205. Gentianella verna, Offic. Gentianella verna major, Ger. Emac. 436. Raii Hist. 1. 718. Gentianella major, Park. Theat. 403. Gentianella Alpina latifolia, magno flore, C. B. P. 187. GENTIANEL.*

The whole Plant, says *J. Baubine*, is of a very bitter Taste, and therefore is good for hysteric Disorders, the Jaundice, and Obstructions. *Raii Hist. Plant.*

5. Gentiana; Alpina; pumila; verna; major, T. 80.

6. Gentiana; angustifolia; autumnalis, major. *Tourn. Inst. 81. Boerb. Ind. A. 205. Pneumonanthe, Offic. Ger. 355. Emac. 438. Gentianella autumnalis Pneumonanthe dicta, Park. Parad. 352. Gentiana palustris angustifolia, C. B. P. 188. Raii Hist. 1. 719. Gentianæ Species, Calathiana quibusdam radice perpetua, five palustris, J. B. 3. 524. MARSH GENTIAN.*

It is found on boggy Heaths, and flowers in Autumn. The Herb is accounted, by the Moderns, of great Virtue against the Pestilence, and the Poison of venomous Animals; and some no less commend it in hepatic and pulmonic Affections: In short, it agrees in Virtues with the common Gentian, only is much weaker. *Dale.*

7. Gentiana; palustris; latifolia; flore punctato, C. B. P. 188. *Boerb. Ind. alt. Plant. Vol. 1. p. 204.*

Besides the foregoing Species of *Gentiana*, *Dale* mentions the following:

Gentianella autumnalis, Offic. Gentianella fugax minor, Ger. Emac. 437. Gentianella autumnalis Centaureæ minoris foliis. Park. Theat. 406. Gentiana pratensis, flore lanuginoso, C. B. Pin. 188. Raii Synop. 3. 275. Tourn. Inst. 81. Gentianæ Species quibusdam, an Cordo Pneumonanthe, aut Gentiana fugax altera Clusii? J. B. 3. 526. BASTARD GENTIAN.

It grows on chalky Hills, and in dry Pastures, and flowers in September. It is supposed to have the same Virtues with the greater Gentian.

This Gentian is a most excellent Stomachic, and one of the most grateful of bitter Herbs, far surpassing, in that respect, the lesser Centaury, instead of which it begins to be frequently us'd by the Physicians and Apothecaries of *London. Dale.*

GENTIANELLA. See the preceding Word.

GENTIAPOLIS, *Ζεντιάπολις*, a Term in *Myrpsus, Antid. 447.* follow'd by an *ισος*, "that is," and a void Space left for a Word to explain it, which none as yet, says *Puchsius*, has been able to supply.

GENTILIUS. An Epithet of Diseases propagated from Parents to their Children, meaning the same as *Hereditarius*, hereditary.

GENU, *γῆνυ*, the Knee. See CRUS.

GENUGRA. A barbarous Term in *Paracelsus*, for *Gonagra*, the Gout in the Knee. *Castellus.*

GENYS, *γῆνυς*. See GENA.

VOL. II.

GEODES *Λαῖος*, *γεωδης*, a Stone so call'd from *γῆ*, "the Earth," which it contains. It is of an astringent and drying Quality, deterges such Things as darken the Sight, and mitigates Inflammations of the Breast and Testes, being rub'd on the affected Parts with Water. *Dioscorides, Lib. 5. Cap. 160.*

GEOPILYSIA, *γεωπυλία*, according to *Rulandus*, is the Name which the Antients very properly gave to a Separation by Dilution; but it will be very hard to find a sufficient Authority for his Assertion. *Castellus.*

GERÆTEROS, *γεραῖτος*, in *Hippocrates*, signifies Middle-aged, or one between thirty Years and Old-age. *Galen's Comment.*

GERANDRYON, *γερανδρυον*. A Name for any old Tree; for the Greeks use the Word *δρυς*, to signify all Kinds of Wood. *Gorrius.*

GERANIS, *γῆρανις*, the Name of a Bandage for a Dislocation of the Shoulder, or a Fracture of the Clavicle, or Collar-bone, invented by *Hippocrates*; or, as others say, by *Perigenes. Galen, Lib. de Fasc. Æginet. Lib. 6. Cap. 99.*

GERANIUM, *γῆρανιον*.

The Characters are;

The Leaves are, for the most part, conjugated, the Calyx pentaphylloidal, and expanded in form of a Star. The Flower here, in *Europe*, is pentapetalous, and rosaceous; but in *Africa* sometimes tetrapetalous, and in a manner galeated and labiated, and furnish'd with ten Stamina, which closely surround the Base of the Ovary. The Fruit is pentangious, or quinquevascular, beaked, containing, at the Base, five Capsules, including each a tailed Seed, and producing a long slender Tube; which five Tubes, uniting in close Coalition, represent, with the Ovary, the Head of a Stork, or Crane.

Boerhaave mentions sixty-eight Species of this Plant; none of which have any Medicinal Virtues attributed to them, except the following: The first of *Boerhaave's* is, the

Geranium; Africanum; arborescens; ibisci folio rotundo; Carlinæ odore, *H. L. 274.*

This Plant has an emollient Virtue like the *Acetosa*: As it is esculent, its tuberos Roots are eaten in *Africa*, as we eat Turneps. An Infusion, or Decoction, of the Herb, or its Juice, are effectual in resolving the coagulated Blood in Wounds; it has something of Astringency, and is recommended by the Antients for the Cure of foul Ulcers; they used it also in Ulcers of the Pudenda. A Bath prepared of the Decoction of this Herb has a good Effect in Fevers; and a Decoction of the Seeds is in Use for the healing of Wounds, and as a Demulcent of Asperities in the Body; it is highly comforting and refreshing to the Breasts labouring under a Cancer; being reckon'd among those Plants which preserve from Corruption: The Leaves, boiled in Wine, discuss an Inflammation, and are commended for an Erysipelas. The Juice of the Root cures Diseases in the Ears, and is good in a Fomentation for Pains of the Joints; for which Purpose it is used by some Surgeons, as also for Fissures in the Breasts, and Discussion of the Milk.

Boerhaave mentions several other Species of the *African Geranium*; all which, he says, are possess'd of an emollient Quality.

The twenty-seventh of *Boerhaave's* is, the

Geranium; Batrachioides; Gratia Dei Germanorum, C. B. Pin. 318. *Tourn. Inst. 266. Boerb. Ind. A. 264. Geranium Batrachioides, Offic. Ger. 797. Emac. 942. Raii Hist. 2. 1061. Synop. 3. 360. J. B. 3. 475. Geranium Batrachioides flore cæruleo, Park. Parad. 228. CROWFOOT CRANE'S-BILL.*

It grows in low Meadows and Pastures, and flowers in *June* and *July*. The Powder of the Herb, sprinkled on a Wound, dries it, and not only puts an immediate Stop to the Hemorrhage, but cures it in a speedy and surprising manner. *Dale.*

All the Species which go by the Name of *Batrachioides*, and especially this twenty-seventh, have a very aromatic Smell, whence they are excellent Aperitives. This Species, in particular, is very successfully used by Surgeons in the Cure of a Scirrhus, Abscesses, and Cancers. It is also commended for its Efficacy against the Stone, and as a Lenitive; and is highly extol'd by the antient Surgeons against cancerous Tumors.

The other Species of *Batrachioides* are, the 28th, 29th, 30th, and 31st of *Boerhaave*.

28. Geranium; batrachioides; Gratia Dei Germanorum, flore albo.

29. Geranium; batrachioides; Gratia Dei Germanorum, flore variegato, C. B. P. 318.

30. Geranium; batrachioides; odoratum, C. B. P. 318.

31. Geranium; batrachioides; folio Aconiti, C. B. P. 317.

The thirty-second of *Boerhaave's* is, the

Geranium; sanguineum; maximo flore, C. B. Pin. 318. *Tourn. Inst. 267. Boerb. Ind. A. 264. Geranium sanguinarium, Offic. Ger. 799. Emac. 945. Geranium sanguineum sive Hematodes, crassu radice, J. B. 3. 478. Geranium-Hematodes, Park. Parad. 229. Raii Hist. 2. 1061. Synop. 3. 360. BLOODY CRANE'S-BILL.*

8 Z The

The Leaves of this Plant are styptic, and taste a little saltish ; they give as deep a Tincture of red to the blue Paper, as Alum : Thus it is probable they are vulnerary no otherwise than by their aluminous Salt, which is united with a great deal of Sulphur and Earth : That does not hinder this Plant from having something urinous in it ; for, by the chymical Analysis, is obtain'd from it, besides several acid and oily Liquors, a little concreted volatile Salt.

The Roots and Leaves of this Species of Geranium are us'd in Ptisans and Broths, which are vulnerary, and good to stop either external or internal Defluxions. *Martyn's Tournefort.*

It grows on Heaths, and among Bushes, especially in hilly Places, and flowers in July. It stops an Hæmorrhage in a surprising manner, in any Part of the Body, what Way soever almost it be us'd. *Dale.*

The thirty-ninth Species, in *Boerhaave*, of this Plant, is the Geranium ; tuberosum ; majus. *C. B. P.* 318. *Boerb. Ind. A.* 265. *Tourn. Inst.* 267. *Geranium tuberosum.* *Offic. Ger.* 795. *Emac.* 940. *Raii Hist.* 2. 1060. *J. B.* 3. 474. *Geranium tuberosum, vel bulbosum.* *Park. Parad.* 228. **KNOTTED ROOTED CRANE'S-BILL.**

It is cultivated in the Gardens of the Curious, and flowers in June and July. *Dioscorides* tells us, that the Root, drank in Wine, dissolves Inflammations of the Uterus. *Dale.*

The forty-fifth of *Boerhaave* is the

Geranium ; folio Malvæ rotundo ; majus. *Boerb. Ind. A.* 265. *Geranium Columbinum, Pes Columbinus.* *Offic. Geranium Columbinum.* *Ger.* 793. *Emac.* 938. *Raii Hist.* 2. 1059. *Synop.* 3. 359. *Geranium Columbinum vulgare.* *Park. Theat.* 706. *Geranium folio Malvæ rotundo.* *C. B. P.* 318. *Tourn. Inst.* 268. *Geranium folio rotundo, multum serrato, five Columbinum.* *J. B.* 3. 473. **DOVE'S-FOOT.**

The Root of this Species of Geranium is small and redish, growing deep in the Earth, but not much branch'd. The Leaves generally lie spread on the Ground in a round Form, growing on long, redish, hairy Foot-stalks ; they are small and round, cut into about seven soft and hairy Segments. The Stalks are slender and jointed, hairy likewise, and beset with smaller and more divided Leaves ; they are about a Span high, having on them several small, purple, five-leav'd Flowers, growing together, each of which is follow'd by a long Head, which resembles the Head and Bill of a Crane, or Stork ; when ripe, splitting into five Seeds. It grows every-where on Banks and Hedge-sides, and flowers great Part of the Summer. The Leaves are us'd.

Dove's-foot is reckon'd among the Number of vulnerary Plants, being useful in inward Wounds, Bruises, and Hæmorrhages, and all Fluxes in general. It is mightily commended for the Cure of Ruptures in Children, given in Powder. It likewise helps the Stone, and provokes Urine. *Miller's Bot. Off.*

This Plant has an herby, saltish, glutinous, styptic Taste. It gives such a red Colour to the blue Paper as the Geranium ; sanguineum ; maximo flore, or Bloody Crane's-bill, in all Appearance, by an aluminous Salt, which is dissolv'd in a more glutinous Phlegm.

The Juice of this Species, boil'd with Sugar, is good for the Dysentery ; its Extraet has the same Virtue ; and its Leaves are us'd in Potions, Decoctions, Plaisters, Oils, and Ointments for Wounds and Contusions.

The fifty-eighth Species of this Plant, in *Boerhaave*, is the Geranium ; Cicutæ folio ; Moschatum. *C. B. P.* 319. *Tourn. Inst.* 268. *Boerb. Ind. A.* 266. *Geranium Moschatum.* *Offic. Ger.* 796. *Emac.* 941. *Park. Theat.* 709. *Raii Hist.* 2. 1057. *Synop.* 358. *Geranium Moschatum folio ad Myrrhidem accedente majus.* *J. B.* 3. 479. **MUSKED CRANE'S-BILL.** *Dale.*

This Species of Geranium has its Leaves spread on the Ground in a round Compass, like the preceding ; but they are much longer and larger, being pinnated with long roundish Pinnæ deeply serrated about the Edges, and pretty hairy, having a sweet Scent somewhat resembling Musk, whence it has its Name. The Stalks grow taller than the preceding, beset with the like, but smaller Leaves. The Flowers are small and purple, growing on longer Foot-stalks, many together, in a kind of Umbel ; after which come beak'd Heads of Seed like the former, but much longer, parting asunder at the End, into five Seeds, each curling itself in a spiral Manner. It is found wild in divers Places of *England*, and is also frequently planted in Gardens, flowering great Part of the Summer.

This is also accounted a vulnerary Plant, as well as the former ; and is sometimes, though not so often, us'd in Wound-drinks. *Miller's Bot. Off.*

The sixtieth Species of Geranium, in *Boerhaave*, is the Geranium ; Robertianum, *Ger.* 794. *Emac.* 939. *Raii Hist.* 2. 1058. *Synop.* 3. 358. *C. B. P.* 312. *Tourn. Inst.* 268. *Boerb. Ind. A.* 366. *Geranium Robertianum, Gratia Dei,* *Offic. Geranium Robertianum vulgare,* *Park. Theat.* 710. *Geranium Robertianum murale,* *J. B.* 3. 480. **HERB ROBERT.**

This Species of Crane's-bill grows taller than either of the former, with several hairy redish Stalks, full of Joints, having at each two Leaves set opposite, which are much cut in and divided, resembling Chervil-leaves, and are beset with small short Hairs. The Flowers come forth at the Joints, two together upon one long Foot-stalk, which are larger than the Flower of either of the two former, consisting of five Leaves, and are succeeded by Heads, resembling the Head and Beak of a Crane, as in the two preceding. The Root is of a redish-yellow Colour, slender, and creeping in the Earth. It grows in Hedges, and shady Banks, flowering in the Summer Months. The whole Plant has a strong unfavoury Smell.

This is much of the Nature of Dove's-foot, being drying and binding, and useful in Wounds and Bruises, as well as in Fluxes ; and is more particularly commended for the King's-evil, and all scrophulous Swellings ; and has done great Service in nephritic Cases. *Miller's Bot. Off.*

It is styptic, saltish, and a little sourish ; and smells of Bitumen, and gives a pretty deep Tincture of red to the blue Paper. In all Appearance it contains a Salt resembling Alum, mix'd with a little fetid Oil, and a very small Quantity of Sal Ammoniac ; for by the chymical Analysis it yields a great deal of Acid, a little Salt, no volatile concrete Salt, but a little urinous Spirit. This Geranium is very astringent, and vulnerary. An Infusion of its Leaves, in Wine, stops all Sorts of Hæmorrhages. *Martyn's Tournefort.*

It is of extraordinary Efficacy in cancerous Breasts ; and an old and skilful Surgeon assur'd me, that he never found more Success, in these Cases, from any Herb than from Geranium and Phellandrium. The Leaves, boil'd in Water, and made into a Cataplasm, and some Vinegar added thereto, have an anodyne Virtue. *Boerhaave.*

GERARAT. A Name in *Avicenna* for some poisonous Animalcula, such as Scorpions, with gibbous Bodies, and sharp Tails. *Castellus.*

GERARDI HERBA. See **ANGELICA.**

GERAS, γῆρας, in *Hippocrates*, means extreme Old-age, in which State Persons are call'd by the *Greeks*, Gerontes, γέροντες, according to *Galen, Com. in Aph.* 31. *Lib.* 3. and by *Hippocrates, Presbytæ, πρεσβύται*, in the same Aphorism ; γῆρας ἐκ νόσου, "Old-age from a Disease," is a sort of Consumption, or marasmodic Fever. *Galen de Præfag. ex Puls.*

GERMEN. The same as **BLASTEMA** ; which see.

GERMINATIO, Germination, Budding, in the Sense of the Spagirists, is a kind of particular Transmutation of Metals, especially Silver, when, by the Mediation of Aquafortis, Mercury, and a small Quantity of Silver, set over a moderate Fire of Charcoal, you see an Appearance of Silver Ramifications, or Branches, germinating or sprouting forth in the Glafs. *Castellus.*

GEROCOMIA, γερκομία, from γῆρας, an aged Person, and κομίω, to be concern'd about, is that Part of Medicine which prescribes a Regimen to Old-age. *Blancard.*

GEROCOMICE, γερκομικῆ, is the same with **GEROCOMIA.**

GERONTOPOGON. A Name, in *Boerhaave*, for the *Tragopogon purpureo-cæruleum Porri folio, quod Artifi vulgo.*

GERSA. Ceruss. *Rulandus.*

GERULA, in *Paracelsus, de Pustul. Gallic.* is a monstrous Plant, or a Degeneration of a transplanted Parsnip. *Castellus.*

GERYON. A Name attributed to Mercury, or Quick-silver, by *Libavius, Ars Chym.*

GESNERA. An American Plant, so named by Father *Plumier*, in Honour of *Conrad Gesner*, a very learned Botanist, and Natural Historian.

It has an anomalous personated Flower, consisting of one Leaf, from whose Cup arises the Pointal, fix'd like a Nail in the hinder Part of the Flower, which afterwards becomes a membranaceous Fruit, divided into two Cells, which are fill'd with small Seeds. *Miller* describes three Species of this Plant.

GESOR. Galbanum. *Rulandus.*

GESTATIO, Gestation, a Species of Gymnastics ; for which see **ÆORA.** *Gestatio* is also us'd to express the Pregnancy of a Woman, or the Time she carries a Child in her Womb, till the Birth. *Castellus.*

GESTICULATIO, Gesticulation, is a Species of Gymnastics, consisting in a spontaneous Agitation of the Parts, and throwing the Body into different Postures, much like Actors on the Stage. Gesticulation, says *Oribasius*, is a middle kind of Exercise, between Dancing and Mock-fighting, but more like the latter, and is useful for the same Intentions [see **UMBRA TILIS PUONA**] ; but it is more adapted to Children, Women, and aged Persons, and those of weak and thin Bodies. *Oribas. Med. Col. Lib.* 6. *Cap.* 30.

GEUM. See **SAXIFRAGA.**

GEUMA, γῆμα, from γῆμα, to taste, in *Hippocrates*, signifies all kinds of Food.

GHAHALA. A Name for the *Colocasia* ; quod *Arum Zeylanicum* ; minus ; *Colocasiae foliis ; pediculis puniceantibus.*

GHAN-

GHANDIROBA, *vel* NHANDIROBA *Brasilienfis*, Marogr.

An hederaceous scandent Plant, growing in *Brasil*; it bears a Fruit of the Size of a large Apple, which contains, under several Shells and Membranes, an oily yellowish Kernel, of which the Inhabitants prepare an Oil, which is us'd in their Lamps, and burns very clear, and is very lasting. It cannot be eaten with Food, because it is bitter, as is the whole Fruit. *Rail Hist. Plant.*

GHITTA *Jemou*. A Name for the GUTTA GAMBA. *Castellus*.

GIALAPPA, GIALAPIUM, JALAPPA. Names for the JALAPIUM; which see.

GIBAR. Metallic Medicines. *Rulandus. Johnson.*

GIBBEROSITAS, GIBBOSITAS. The same as CYPHOSIS; which see.

GIBUM. Cheese. *Rulandus. Johnson.*

GIFFÆ. Tumors behind the Ears. *Castellus.*

GIGARTON. The Stone, or Kernel, of a Grape. Grape-stones, *Ægineta* says, are drying and refrigerating. The Stones of Raisins afford an acid Spirit, an empyreumatic Oil, and, as some pretend, a volatile Salt. *Castellus.*

GIGARUS. A Name for the *Dracontium*, in *Marcellus Empiricus*, C. 10.

GIGERIÆ. The Entrails, Viscera, and Extremities of Poultry. *Hesychius.*

GILARUM. A Name for the *Serpyllum*, in *Marcellus Empiricus*, C. 11.

GILLA *Vitrioli*. See VITRIOLUM.

GINGIBER. The same as ZINZIBER, which see.

GINGIBRACHIUM, and GINGIPEDIUM. Names for the Scurvy, so call'd; because the Guins, Arms, and Legs, are affected by this Distemper.

GINGIDIUM *alterum*. A Name for the *Visnaga*.

Gingidium Dioscoridis. A Name for the *Caucalis*; *arvensis*; *echinata*; *magno flore*.

Gingidium folio Chæryophylli. A Name for the *Daucus*; *maritimus*; *lucidus*.

Gingidium folio Fœniculi. A Name for the *Thapsia*; *Orientalis*; *Anethi folio*; *semine eleganter crenato*.

Gingidium primum. A Name for the *Tordylium*; *minus*; *limbo granulato*; *Syracum*.

GINGIVÆ. The Gums. See DENS, EPULIS, and PERULIS.

When Infants, whose Teeth are just about to break out, are afflicted with intense Heat, Crying, and Watching, or with Convulsions and Epilepsies, we must forthwith examine, whether there is not, on the Gum, a Tumor, which indicates a rising Tooth: If there should, the means of Relief are, first, to be sought from proper Remedies; and, if these should prove ineffectual, manual Operation must be us'd; for a transverse Incision is cautiously to be made, with a Knife, in the tumid Gum, as far as the rising Tooth. By this means the violent Distention of the Gums being remov'd, the above-mention'd Symptoms, for the most part, immediately disappear; especially if the wounded Gum is diligently anointed with Syrup of Violets, or Honey of Roses. *Sydenham*, a justly celebrated Practitioner, affirms, that difficult Dentition, which is always accompanied with Inflammation, cannot be more expeditiously cur'd than by Venesection. *Vesalius*, in the eleventh Chapter of his first Book *de human. Corp. Fabric.* informs us, that in Adults, whose *Dentes Sapientiæ* generally appear after the twentieth Year of their Age, with intense Pain, this Pain may be successfully remov'd by frequent Scarification of the tumid Gum, or by making an Incision into it. The Authority of *Vesalius*, in this Case, is so much the better, because, when he was twenty-six Years of Age, he us'd this Method himself. And *Paré*, in the sixty-seventh Chapter of his twenty-third Book, observes, that through a Neglect of these Precautions the Duke of *Nevers's* Son died, when eight Months old. *Heist. Chirurg.*

GINGIPEDIUM. See GINGIBRACHIUM.

INGLYMUS, *γινγλυμος*, signifies a Hinge; and hence, in Anatomy, a Species of Articulation resembling a Hinge. See ARTICULATIO.

GINSZENG, & NINZIN, *Offic. Ninzin, Ginsen, Mont. Exot. 7. Ninzin seu Zingin & Ginseng Radix genuina India Orientalis*, Pluk. Phytog. Tab. 101. Num. 7. *Ginseng & Ginseng quibusdam*, *Rail Hist. 2. p. 1338. Radix Ninzin, Pif. Mant. Arom. 194. Ginseng vel Ninzen, Nisi, Rad. Chinenfis, Cod. Med. 55. Radix Ginseng Chinenfis, Nisi Japonensis, Ogilb. Chin. 1. 212. Radix Ginseng, Eusd. 2. 679. Sifurum montanum Coræense, radice non tuberosa, Kempf. Atcn. Exot. 818. Aureliana Canadensis Iroquois Garentogon, Sinensis Ginseng, R. P. Lafiteau.*

Father *Jartoux*, a Jesuit Missionary, in *China*, gives the following Description of Ginseng.

The Ginseng has a white Root, somewhat knotty, about thrice the Thickness of the Stem, and which goes tapering to the End: At a few Inches from the Head, it frequently parts

into two Branches, which gives it some Resemblance of a Man, whose Thighs the Branches represent; and it is hence it takes the Denomination *Ginseng*.

From the Root rises a perfectly smooth, and tolerably round Stem; its Colour is a pretty deep Red, except towards the Foot, where, by the Neighbourhood of the Earth, it is turned somewhat whiter: At the Top of the Stem is a sort of Joint, or Knot, formed by the shooting out of four Branches, which spread as from a Centre: The under Side of each Branch is green, mix'd with white; and the upper Part, much like the Stalk, of a deep Red: The two Colours gradually decrease, and at length unite on the Sides.

Each Branch has five Leaves, equally divided from each other, both with respect to themselves, and to the Horizon; and with the Leaves make a circular Figure, nearly parallel to the Surface of the Ground.

The Fibres of the Leaves are very distinguishable, and on the upper Side are beset with small whitish Hairs: The Membrane, or Pellicle, between the Fibres, rises a little in the Middle, above the Level of the Fibres.

The Colour of the Leaf is a dark Green, above; and a shining, whitish Green, underneath; and all the Leaves are finely jagged, or indented.

On the Edges, from the Centre of the Branches, arises a second Stalk, very strait, smooth, and whitish, from Bottom to Top, bearing a Bunch of round Fruit, of a beautiful red Colour. This Bunch, in the Plant viewed by our Missionary, was composed of twenty-four Berries.

The red Skin, which covers the Berry, is very thin and smooth, and contains within it a white Pulp: As these Berries were double, (for they are sometimes single) each had two rough Stones, of the Size and Figure of our Lentils. The Pedicles, whereon the Berries were supported, all arose from the same Centre; and, spreading exactly like the Radii of a Sphere, made the Bunch of Berries of a circular Form. The Fruit is not good to eat, and the Stone includes a Kernel: It has also a small Beard at the Top, diametrically opposite to the Pedicle.

The Plant dies away every Year, the Number of its Years may be known by the Number of Stalks it has shot forth, of which there always remain some Marks.

As to the Flower, *F. Jartoux* owns he had never seen it; and therefore could not describe it: Some have assured him, that it is white, and very small; others, that there is no Flower at all, and that nobody had ever seen it. He rather inclines to think it so small as to have escaped Notice; and what confirms him in the Opinion, is, that those who seek the Ginseng, having nothing in View but its Root, overlook and despise the rest as useless.

As they have sowed the Seed in vain, without any Plant ever arising therefrom, it is probable that might give occasion to the Fable, which is current among the *Tartars*: They say, that a Bird eats it, as soon as in the Earth; and, not being able to digest it, it putrefies in its Stomach, and afterwards springs up in the Place where it was cast, by the Bird, with its Dung. The Missionary rather believes, that the Stone remains a long time in the Ground, before it takes Root; which appears the more probable, as there are some Roots no longer or bigger than one's little Finger, which yet have shot forth, at least, ten Stalks.

The most eminent Physicians in *China* have wrote whole Volumes upon the Virtues and Qualities of this Plant; and make it an Ingredient in almost all Remedies, which they give to their chief Nobility; for it is of too high a Price for the common People. They affirm, that it is a sovereign Remedy for all Weaknesses, occasion'd by excessive Fatigues, either of Mind or Body; that it dissolves pituitous Humours; that it cures Weakness of the Lungs, and the Pleurisy; that it stops Vomitings; that it strengthens the Stomach, and helps the Appetite; that it disperses Fumes, or Vapours; that it fortifies the Breast, and is a Remedy for short and weak Breathing; that it strengthens the vital Spirits, and increases Lymph in the Blood; in short, that it is good against Dizziness of the Head, and Dimness of Sight; and that it prolongs Life, in Old-age. Nobody can imagine, that the *Chinese* and *Tartars* would set so high a Value upon this Root, if it did not constantly produce a good Effect. Those who are in Health often make use of it, to render themselves more vigorous and strong; and I am persuaded, that it would prove an excellent Medicine in the Hands of any *European*, who understands Pharmacy, if he had but a sufficient Quantity of it, to make such Trials as are necessary, to examine the Nature of it chymically, and to apply it in a proper Quantity, according to the Nature of the Disease, for which it may be beneficial.

It is certain, that it subtilizes, increases the Motion of, and warms the Blood; that it helps Digestion, and invigorates in a very sensible manner. After I had designed the Root, I observ'd the State of my Pulse, and then took half of the Root, raw as it was, and unprepar'd: In an Hour after, I found my Pulse much fuller and quicker; I had an Appetite, and found myself much more vigorous, and could bear Labour much better and easier than before: Four days after, finding myself so fatigued

fatigued and weary, that I could scarce sit on Horseback, a Mandarin, who was in Company with us, perceiving it, gave me one of these Roots: I took half of it immediately, and an Hour afterwards I was not the least sensible of any Weariness. I have often made use of it since, and always with the same Success. I have also observ'd, that the green Leaves, and especially the fibrous Part of them, chew'd, would produce nearly the same Effect. The Tartars often bring us the Leaves of Ginseng instead of Tea; and I always find myself so well afterwards, that I shall readily prefer them before the best Tea. Their Decoction is of a grateful Colour; and, when one has taken it twice or thrice, its Taste and Smell become very pleasant.

As for the Root of this Plant, it is necessary to boil it a little more than Tea, to allow time for extracting its Virtue; as is practised by the Chinese, when they give it to sick Persons, on which occasion they seldom use more than the fifth Part of an Ounce of the dry'd Root. But, as for those who are in Health, and take it only for Prevention, or some slight Indisposition, I would advise them not to make less than ten Doses of an Ounce, and not to take of it every Day. It is prepar'd in this manner: The Root is to be cut into thin Slices, and put into an earthen Pot, well glaz'd, and fill'd with about a quarter of a Pint of Water, Paris Measure: The Pot must be well cover'd, and set to boil over a gentle Fire; and, when the Water is consum'd to the Quantity of a Cup-full, a little Sugar is to be mix'd with it, and it is to be drank immediately. After this, as much more Water is to be put into the Pot, upon the Remainder, and to be boil'd as before, to extract all the Juice, and what remains of the spirituous Part of the Root. These two Doses are to be taken, one in the Morning, and the other at Night.

As to the Places where this Root grows, it is between the thirty-ninth and forty-seventh Degree of Northern Latitude, and between the tenth and twentieth Degree of Eastern Longitude, reckoning from the Meridian of Peking. There is there a long Tract of Mountains, which the thick Forests, that cover and encompass them, render almost unpassable. It is upon the Declivities of these Mountains, and in these thick Forests, upon the Banks of Torrents, or about the Roots of Trees, and amidst a thousand other different Sorts of Plants, that the Ginseng is to be found. It is not to be met with in Plains, Valleys, Marshes, the Bottoms of Rivulets, or in Places too much expos'd and open. If the Forest takes Fire, and be consum'd, this Plant does not appear till two or three Years after. It, also, lies hid from the Sun, as much as possible; which shews that Heat is an Enemy to it: All which makes me believe, that, if it is to be found in any other Country in the World, it may be particularly in Canada, where the Forests and Mountains, according to the Relation of those that have lived there, very much resemble these here.

Father Lafitau, a Missionary Jesuit, and a Lover of Botany, was moved at the Reading of a Letter, wrote by Father Jartoux, from China, concerning the Ginseng, to search for that Plant in the Forests of Canada; and, after much Pains, believ'd he had found it, because it was exactly like what Father Jartoux had describ'd. The Iroquese, in that Country, who are very curious in Plants without being Botanists, and know very well how to use them without regular Prescriptions, call this Plant *Garant-oguan*, which nearly signifies, *Two things separated like two Thighs*.

The Academy being apprised of this Discovery of Father Lafitau, some Botanists still wanted clearer Information, to satisfy themselves, that this Plant of Canada, was the same as what grew in Tartary; and they even doubted, whether that of Father Jartoux was the true Ginseng, because M. Kämpfer, in a Book printed 1712, had given a Cut of the Ginseng, very different from that of Father Jartoux. Father Lafitau happening to return to Paris, publish'd a small Treatise on the Subject, which was distributed to the Academy, and seems entirely to dissipate all Doubts. It contains a Description of the Ginseng of Canada, or the *Garant-oguan*, more circumstantial than that of Father Jartoux. Its Virtues, as far as they could be try'd by Father Jartoux, for the present, are the same as M. Bourdelin, and common Opinion, ascribe to the Ginseng. M. Paillant has reduc'd that Plant under a new Genus, which he calls *Araliastrum*. Before it was known to be the Ginseng, or any thing heard of its Virtues, M. Sarrafin, a Physician, and very good Botanist, at his first Arrival in Canada, had observ'd this, among other Plants, peculiar to that Country, and gave it the Name of *Aralia humilis Fructu majore*. The English also observ'd it in their Colony of Maryland, and it is from their Accounts, that M. Ray, in his *General History of Plants*, has given it us under the Name of *Plantala Marilandica Folii in summo Cauliculo ternis, quorum unumquodque bifariam dividitur, circa Margines serratis*, "The Maryland Plant, with three quinquedid serrated Leaves, at the Top of the Stalk." A Description which, however short, is sufficient to make us know it.

We are here then, you see, enrich'd with the Discovery of a very valuable Plant, for which, as well as for that of the *Quinquina*, we are oblig'd to the Missionary Fathers, the Jesuits. The Misfortune is, that this Plant, though growing in the Forests of Canada, where you need only take the Pains to gather it, will, in all Probability, be always scarce and dear. It has a perennial Root, and an annual Stalk; the Root produces, yearly, but a single Stalk, which perishes every Year; and by certain Nodes, form'd every Year in the Root, every one of which is the Mark of a Stalk, which has proceeded from it, Father Lafitau judges, that the Plant, or, more properly, its Root, may live a hundred Years. The Plant grows only in Forests, and not such neither as are over-run with Briars, or Copses, but only in the Shade of tall Trees; so that when these Places are clear'd, it appears no more there; and, in short, it sows itself with Difficulty; for, in the most advantageous Situations, we discover no more than seven or eight Stalks, one after another. M. de Jussieu sow'd some fresh and likely Seeds, which he had receiv'd from Father Lafitau, in the Royal Garden, but they did not succeed.

We have, however, some Reason to comfort ourselves for the Scarceness of the Ginseng, if, as M. Reneaume assures us, the *Hepatica nobilis Tragi*, a common Plant in Medicine, but less esteem'd than it deserves, be endu'd with its principal Virtues. *Histoire de l'Acad. Royale*, 1718.

Whatever Virtues the Ginseng may possess, when recent, I am afraid it loses so much before it comes to us, that we cannot be proper Judges of its Efficacy. It is certain, that it is soon eaten by Worms, and becomes carious; an Instance of which I have seen, in a large Parcel, that was purchas'd by one concern'd in Medicine: When he perceiv'd the Worm began to seize it, he prudently made a Tincture of all he had left; and he assures me, from his own Experience, that he has great Reason to believe, that the Virtues attributed to the Ginseng, by the Chinese and Tartars, are not without Foundation.

GISCARA. A Name for the *Palma, Coccifera, minor Brasiliensis*.

GIR. Quick-lime. *Rulandus*.

GIRGIES. White Stones, found in Rivers. *Rulandus*.

GIRMER. Tartar. *Rulandus*.

GISISIM. Gum. *Rulandus*.

GIT, or GITH. A Name for the *Nigella*; *Flore minor, candido*. Fennel-flower. See NIGELLA.

GITHAGO. A Name for the *Lychnis*; *Segetum; major*.

GIUHNAXOCHITL. A Name for the *Tagetes*; *maximus; rectus; flore maximo, multiplicato*.

GLABELLA. The Latin Name for the Space between the Eye-brows, so called from its Smoothness, as being void of Hair. The Greek Term for it, in *Ruffus Ephesus*, is *μεσώφρυον*, or *Mesophryon*.

GLACIES MARIE. The same as the *SPECULARIS LAPIS*; which see.

GLADIOLUS.

The Characters are;

The Root is carious, tuberous, and double, one Part resting on another; the Leaves are like those of the Iris. The Calyx consists of two vaginal or sheath-like Leaves supporting the Ovary, and the Tube of the Flower seated thereon. The Flower is monopetalous, and, like a Lily, Funnel-shap'd below, but expanded above, and divided into six large Segments, of which the three uppermost are larger, wider, and more erect; the three lowermost longer, narrower, and in a manner pendulous, so as to make the Flower appear almost bilabiate. The Flower is seated on the Apex of the Ovary, and is furnish'd with three Stamina, which arise from the Inside of its Tube. The Ovary becomes an oblong, tricapsular Fruit, which is full of roundish Seeds, involv'd in a Calyptra, or Cover; and has a Tube, which arises from the Centre of its Apex; and is furnish'd with three hollow Cymbi, or little Cups, for its Apiculæ. *Boerhaave, Index alter, Part 2. p. 126.*

Boerhaave mentions six Species of this Plant; which are,

1. Gladiolus; utrimque floridus, C. B. P. 41.

2. Gladiolus; carnei coloris, Swert. 42.

3. Gladiolus; maximus, Indicus, C. B. P. 41.

4. Gladiolus; floribus uno versu dispositis; major, floris colore purpureo-rubente, C. B. P. 41. *Tourn. Inst. 365. Boerh. Ind. A. 2. 127. Gladiolus, Offic. Gladiolus Narbonensis, Park. Parad. 189. Gladiolus Italicus, Ger. 95. Emac. 104. Gladiolus five Xiphion, J. B. 2. 701. Raii Hist. 2. 1168. Victoralis rotunda, Offic. CORN-FLAG.*

It is cultivated in our Gardens, and flowers in June. The Root, which is the Part in Use, is of a drawing, discharging, and drying Quality; it is commended as an Alexipharmac, and against the Pestilence; and is accounted, by the Ignorant and superstitious Vulgar, a Charm against Witchcraft, and a Spell to render the Body invulnerable. *Dale*.

5. Gladiolus; Africanus; folio gramineo; floribus carneis maculam rhomboideam purpuream inscriptis, uno versu positis.

6. Gladiolus; utrinque floridus, floribus albis. H. R. Monsp.

Gladiolus luteus. See ACORUS ADULTERINUS.

GLADIUS. The Sword-fish. *Pliny.*

GLAMA, GLAME, γλάμα, γλάμη. The Sordes of the Eye in a Lippitude; γλαμυροὶ ὀφθαλμοί, in *Hippocrates, Lib. 2. de Morb. Mul.* are fordid and humid Eyes. *Castellus.*

GLANDES TERRÆ. See LATHYRUS; arvensis; repens; tuberosus.

GLANDIUM. The same as THYMUS; which see. *Castellus.*

GLANDOSUM Corpus. So *Vesalius* calls the PROSTATÆ.

GLANDULA. A Gland. See CONGLOBATA, and CONGLOMERATA.

The Antients thought, that the Glands were Cisterns, which contained certain Liquors, by which the Blood being fermented, throws off the Humours we find in the excretory Ducts. But as these Ferments must mix with the Blood, so they must be exhausted and carry'd off by the Blood into the Veins. And because all the Liquors in the Body are separated from the Blood, there must, therefore, be another Ferment to separate more: But this second Ferment is liable to the same Fate as the first; and, therefore, there must be an infinite Series of Ferments in the Body, which is absurd. If it should be said, that the Ferments are not carry'd off with the Blood, they must be stop'd by the Structure of the Glands: But then we have a Secretion without a Ferment; which is the Opinion of most of the Moderns: Some of which think, that the Glands are Tubes, whose Orifices, differing in Figure, admit only Bodies of similar Figures to pass through them. But this Opinion is demonstrably false; for, beside that Liquors are susceptible of all Figures, and that Bodies of any Figure, and a lesser Diameter than that of the Gland, will pass through; and that even a Body of a similar Figure, and equal Diameter with that of the Orifice of the Gland, may be presented innumerable ways, and not be able to pass through, whilst there is only one way it can pass; I say, besides all these, it is easy to demonstrate, that all the Vessels in the Body are either conical or cylindrical, and consequently there is no Difference in the Figure of their Orifices: For the Pressure of a Fluid being always perpendicular upon the Sides of the Vessel that contains it, and equal at equal Heights of the Fluid, if the Sides are soft and yielding, they must be equally distended; that is to say, a Section perpendicular to the Axis of the Vessel must be a Circle, and, consequently, the Vessel be either cylindrical, or conical. This is agreeable to the Observations and Speculations of the nicest Anatomists, who tell us, that a Gland is nothing but a Convolution of small Arteries, whose last Branches are cylindrical, or, which is the same thing, part of an infinitely long Cone. A Gland, therefore, being nothing else but a Branch of an Artery, whose farthest Extremity becomes the excretory Duct of the Gland, let us consider how such a Structure can separate from the Blood only some Parts of it, and how different Glands may separate different Parts of the Blood. First, then, if such a Fluid is to be drawn off, as consists of the smallest Particles of the Blood, let that Orifice of the Gland, which is inserted into the Artery, of which it is a Branch, be so small as to admit only the smallest Particles of the Blood; then these, and these only, will enter this Gland; and the Fluid which passes out at the other Extremity of the Tube, or the excretory Duct, must be such as is required. If the Particles of the Blood, which are of the next Size or Magnitude, are required to be separated, let the Orifice of the Gland be so big as to receive these second Particles, but small enough to exclude all bigger Particles, then these second Particles, together with the first, or smallest, will enter the Gland; but because the Liquor to be secreted is to consist only of the second Sort of Particles, that is, the second Sort of Particles only are to flow out at the Extremity of the Tube, which is the excretory Duct, therefore we are to suppose, that this Gland (which is only a Branch of the Artery, and differs in nothing from a common Artery, but in the Narrowness of its Chancel) has Branches which are big enough to receive the smallest Particles only, and carry them off into the Veins: So that, as both Sorts of Particles move together along the Gland, the smallest Particles will pass off through its Branches, and a Fluid, consisting principally of the second Sort of Particles, will arrive at the excretory Duct. Thus the Number of Branches may be so great as to draw off most of the smallest Particles, before the second Sort of Particles arrive at the excretory Duct; so the Liquor to be secreted may consist of both these Sorts of Particles, mixt together, in any Proportion, according to the Number of Branches. If a Fluid, consisting of a third Sort of Particles, larger than either of the former, is to be secreted, the Orifice of the Gland must be just big enough to admit of such Particles, and none bigger; and the Branches of the Gland must be small enough to exclude the biggest Particles, and big enough to receive the lesser; and, according as the Number of Branches is either greater or smaller, the Fluid, which runs out at the excretory Duct, will consist either of the largest Particles, or of all together mixt in any Proportion. Thus we see, how a Liquor, thicker than the Blood, may be strained off from the Blood, if

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the Orifice of the Gland be so big as to admit Particles of all Sizes, and the Branches so numerous as to draw off the thinner Part, before the thicker arrives at the excretory Duct.

After this manner, the several Humours of the Body may be separated by the Glands from the Blood, which must either be composed of so many Humours as are separated from it, or else it must contain a few Principles, which, mixt all together, form the Blood, and, which variously combined, form the different Humours which are drained from it, as a few Rays of Light of different Refrangibilities, mixt all together, produce a white Colour; but, variously combined, exhibit all imaginable Variety of Colours.

It is not at all probable, that the Blood, in which we discern but two distinct Parts, should be composed of near thirty simple Humours; for so many do the Glands secrete from it: Nor is it agreeable to that Simplicity which Nature constantly affects in all her Operations. The Principles of all natural Bodies are said, by Philosophers, not to exceed the Number Five; and how prodigious is the Variety that results from their different Mixtures, and Modifications! If we suppose, also, but five Principles, or different Particles, in the Blood, their Combinations alone, without different Modifications and Proportions, will yield near as many different Humours as are separated by the Blood. Nor is this purely a Supposition, but it is matter of Fact, that Urine, Sweat, Tears, Spit, and Milk, are compound Liquors, and that in each of them there are Parts common to all of them. And if the Composition of some of the other Humours of the Body is not so apparent, it does no more follow from thence, that they are not compounded, than it does, that the Blood is not, because we do not perceive in it the several Humours, which by the Glands are separated from it. Being, therefore, the several Humours are formed by the various Combinations of a few Particles which compose the Blood, and that each Humour is secreted by Glands, plac'd in some one Part of the Body, as the Gall, which is separated no-where but in the Liver, and the Urine in the Kidneys, the Particles of the Blood must fall into such Combinations as are fit to form Gall at the Liver, Urine at the Kidneys, and so of the others; otherwise the Glands could never separate from the Blood such Humours. And being all the Humours are compos'd of a few different Particles, the greater will be the Number of Particles combined to form Bile; and the greater Quantities of Bile will be secreted, the fewer there are of all other Combinations at the Liver. Such Combinations, therefore, as are fit to form the Humours proper to pass thro' the Glands, where these Combinations are form'd, being there only requisite, will be there most numerous; and all others, being less requisite, or useless, will be there less numerous: And, therefore, where-ever the Particles of the Blood are most dissolved, there will be plac'd such Glands as separate Humours which consist of the most simple Combinations, or of Particles which the most easily combine; and, at the greatest Distance from these, will be situated the Glands which secrete Humours consisting of the most compound Combinations, or of Particles which do the most slowly unite; and between these will be all other Glands, nearer to either Extreme, as they separate Humours more or less combined, or compounded of Particles, which more quickly, or slowly, combine together. By the Thinness of the Liquor in the Pericardium, and of the Urine which passes thro' the Kidneys, the Particles of the Blood seem to be most dissolved at and about the Heart. Here we not only find the Effects of this Dissolution in the Secretions, but likewise the Cause of it, the Force of the Air in Respiration breaking the Globules of the Blood, which Force is demonstrable to exceed the Pressure of an hundred Pounds Weight, upon the Surface of the Lungs. Nor is it evident only from the Cause and Effects, that the Blood is here most dissolved, but also from the Methods which Nature takes to prevent the Effects of this Dissolution, in some particular Places, at a little Distance from the Heart: For the Bile and Seed being thick Humours, compos'd of Particles which combine but slowly together, and it being requisite, that they should be secreted where the Liver and Testicles are plac'd, Nature has made use of particular Contrivances, to give the Particles, which were to form these Humours, more time to combine, than they could have had otherwise, being so near to the Heart. For the Formation of Bile, she has contriv'd the Vena Portæ, and the Spleen: Through the first, the Blood moves near two hundred times slower, and through the last altogether as much, than otherwise it had done. And, that the Particles which form the Seed, might have time to combine, the Orifices of the spermatic Arteries are contracted; and they likewise arise from the Aorta Descendens, a little below the Emulgents, at a great Distance from the Testicles, contrary to the common Course of Nature; by which means the Blood is 150 times longer in going to the Testicles, than otherwise it had been. At the greatest Distances from the Heart, the viscous Liquor of the Joints is secreted; and some Liquors, whose Parts require no Combination, as the Lympha, may be secreted any-where. All these different Combinations, which form so many distinct

Fluids,

Fluids, arise from an attractive Power in the Parts of Matter; which, tho' it be equally diffus'd thro' the whole Mass, yet, according to the different Densities of Particles, and the Figure of their Parts, some Sorts of Particles will be soon united, whilst others require a longer time to be join'd together; some Particles will cohere more firmly than others, and Particles of one kind will have a greater Tendency to unite with those of another Sort, in a certain Portion of their Surface, than in any other. This attractive Force is different from that by which Sir *Isaac Newton* explains the Motions of the heavenly Bodies; for the Force of Attraction, by which the Planets observe their Motions, decreases only in a reciprocal duplicate Proportion of their Distances; whereas this other seems to decrease in a reciprocal Triplicate, or in a greater Portion of the Distances of the Parts of Matter from each other. *Keill's Anatomy*.

In giving an Account of the Nature, Properties, and various Uses of the Glands, we shall take notice of the useful Discoveries of *Sylvius*, *Steno*, *Wharton*, *De Graaf*, *Malpighi*, *Bellini*, *Borelli*, *Peyer*, *Ruyssch*, and *Nuck*, who have been both diligent and accurate in their Researches with respect to the Glands.

Glands, then, are either simple or compound; the latter consist of the former, and are both contain'd in one common Membrane. Those of the simple kind convey their proper Humour thro' their own lymphatic Ducts either to the Chyle, or to the venous Blood; or else they discharge their Contents, either on the external Parts of the Skin, or the Surfaces of the loose Membranes, which are every-where found in the Body: But the compound Glands, by means of a proper Canal, discharge their Humours form'd in every Part, into a larger Canal, and at last, by means of this common Emissary, into the large Cavities, especially those of the Mouth and Intestines, or quite out of the Body, for particular Purposes. The simple Glands are also call'd conglobate, and the compound conglomerate Glands.

The simple Glands are form'd of a certain exterior and slender Membrane, together with a subjacent one, to which the other closely adheres: The former, compos'd of circular and elastic Fibres, every-where comprehends, braces up, compresses and expresses the contained Liquor, and consists principally of a Contexture of the small Vessels, which enter it, and are sent out from it. The latter, which is thicker and more dense, consists of Fibres running almost in all Directions, and of an intricate and perplex'd Contexture of the small Vessels: It is subservient almost to the same Purposes with the former. These Membranes receive the Arteries, support their Ramifications in a due and unalterable Order, and accurately convey and distribute these Ramifications to every the most minute Part of the Gland; so that an Injection of Wax or Quick-silver, by increasing the Bulk of the small Arteries, and compressing the other Vessels, would almost make us think, that the whole Fabric of the Gland was arterial. These Membranes have, also, Veins dispos'd in the same Direction with the smaller Arteries, and more and larger Nerves than any Part of the Body of an equal Bulk; and these Nerves are also so distributed thro' the small Body of the Gland, that they seem almost to make up the Whole of it. These Membranes, of which the Glands consist, have also lymphatic Vessels, which arrive at, and are sent out from them.

Their Arteries are conical, inflected, ramous, elastic, and gyrated Canals, whose Extremities are cylindrical, and no longer ramous, but chang'd into Veins: But, before these small Arteries are thus chang'd, they communicate with each other by an infinite Number of Anastomoses, and various Positions at an infinite Number of different Angles; so that their Extremities vary very greatly in different Glands.

The arterial Blood, therefore, convey'd to the Glands, is mov'd very briskly; for there is a great Resistance, a Compression, a mutual Pressure of the Parts upon each other, an oblique Pressure, a continual Permutation of Contacts; every-where a multifarious Application to all the most minute Points of the Canals, a various Rotation at every Moment, and an opposite Pressure, in every Particle, a Distribution of the Humours into the Ramifications, and a Return thereof to the Ramifications, an Attenuation, an Attrition, a Preservation of Fluidity, Solidity, Secretion, and a due Mixture.

In the mean time the Ramifications arising from the Trunk of the Artery are generally narrower than the Trunk at that particular Part whence they arise: This happens even in the most minute Ramifications, so that the ultimate Ramifications are smaller than the smallest Part of the common Trunk. The ultimate Trunks transmit the red and thickest Part of the Blood, and convey it to the Beginnings of the small Veins. The smaller Ramifications receive finer, more fluid, and pellucid Parts, smaller than the Diameters of their respective Cavities, press'd thro' them by an oblique, opposite, and strong Force.

But this subtle Fluid, destitute of the thicker Parts, is no longer Blood, but some other Liquor of various Kinds, such as Sweat, perspirable Matter, or that discharg'd by the cuta-

nous Pores, Tears, pinguious Wax, the Wax of the Ears, Mucus, Saliva, Spit, Mucilage, Lymph, Serum, Bilé, Seed, Oil, Milk, and Fat. Hence, the ultimate Ramifications, losing their former Name of Artery, are denominated from the Nature of the Fluid they contain; and, as they often assume all the Properties of an Artery, they will also have their smaller Ramifications and Veins. Hence there are both Arteries and Veins destin'd for the Serum, the Lymph, the aqueous Parts, and the Spirits, as well as for the Blood. Nor is it known where this Progression terminates; but by this means we come to know the Origin, the Progress, the End, and the Office, of the lymphatic Vessels. See *ERROR Loc.*

The Ramifications, however, of any such Artery, when no longer ramous, but direct, and collected in the finest Membrane of the most minute glandular Follicle, opening the Mouths of their Extremities, discharge their contain'd Fluids into a common Cavity, form'd by that fine Membrane, where being collected, it in some measure remains, and is the glandular Lymph there prepar'd and accumulated.

'Tis probable that the Nerves of the Glands, by a similar Apparatus, discharge their Spirits into this common Cavity, where they are mixt with the Lymph, and furnish it with the Qualities it naturally ought to have.

In the mean time the lymphatic Arteries often convey the Lymph receiv'd into their small Veins furnish'd with Valves, by us call'd vascular Lymph, to these Glands; and by a different Apparatus convey it into the same Follicle, where 'tis mix'd with the glandular Lymph and Spirits, in order to supply a most subtle Part, in the room of that which is lost.

Then this compound Humour is by the contractile Force of the fibrous Membrane, the Motion of the Artery, and the Pressure of the Muscles, carried thro' the egredient lymphatic Veins into other Glands, where 'tis again to undergo the same Action, and thence into the Receptacle of the Chyle, the thoracic Duct, or the Blood-vessels: And such seem to be conglobate Glands in all the Parts of the Body.

But in other Glands the Case is quite different; since this Follicle immediately expels thro' its proper Emissary the Liquor it receives, into some common Cavity: Thus the secreted Mucus is deposited, collected, and chang'd in the frontal Sinuses, the Sinuses of the superior Jaw, the *Cellulae* of the *Os Sphenoides* under the *Sella Turcica*, the Excavations of the spongy Bones of the Nostrils, the Cavities of the Nostrils, and the *Lacunae* of the Tonsils. Of this Kind seem to be the mucilaginous Glands of the Mouth, of the back Part of the Tongue, of the exterior and interior Part of the Epiglottis, of the internal Part of the Nostrils, of the *Meatus auditorius*, of the *Larynx*, of the *Aspera Arteria*, of the *Bronchia*, of the *Oesophagus*, of the Stomach, and of the Intestines, which Species of Glands may be call'd simple excretory Glands.

Again, other Glands, with a similar Apparatus, discharge their prepar'd Liquors thro' proper Emissaries, arising from the common Cavity, without the Skin, as the Glands in the external auditory Passage, in the *Pinnæ Nasi*, in the exterior Part of the Nose, in the Beginning of the internal Part of the Nostrils, in the Face, in the Neck, in the *Axillae*, in the *Scapulae*, in the *Areolae* of the Nipples and Navel, in the Hips, in the *Areola* of the *Anus*, in the *Perinæum*, in the *Pubes*, in the *Mons Veneris* in both Sexes, in the *Scrotum*, in the Integuments of the Penis, in the Lips of the Female Pudenda, and in the Knees. The Glands of this kind are now call'd sebaceous Glands.

Hence the Distance of an Artery from the Heart, its Situation with respect to the Heart, and the Trunk whence it arises, its various Complication, the different Velocity of the Blood moving thro' it, the Proportion of each Ramification to its common Trunk, the different external and internal expressing Force, the Continuance of the Fluid in the common Cavity, its Distribution thence into Places which again change the Humours by their Structure; and the Exhalation or Separation of the most liquid Part of the secreted Fluids, are all Circumstances which concur to make various Liquors secreted from the same Blood in various Parts, and, when secreted, surprisingly chang'd.

In the Structure of the human Body, as discover'd by the Evidence of Sense, these Causes are found to be various in various Parts of the Body, or they are capable of being deduced from this Structure of the Body, with the greatest Evidence, by means of infallible mechanical Laws, and by a Knowledge of the Nature of the Humours, which may be easily and speedily acquir'd. The innumerable Species, therefore, of Secretions and secreted Fluids may be hence understood.

Hence 'tis by no means necessary to suppose, that, in order to glandular Secretion, Pores of a determin'd, various, and immutable Size are absolutely requisite; especially since 'tis repugnant to the Laws of Nature, that there should be such, or that they could act in such a manner, though they really existed.

Much

Much less is it consistent with the Principles of Physic, to account for glandular Secretion by any Ferments, whether they are suppos'd thick or fluid, or whether we conceive them to act by Fermentation, Precipitation, Coagulation, Solution, Change, or Assimilation; for to these neither Cause, Origin, Matter, Place, Admixture, Efficacy, Proportion, Duration, Effect, or Termination, can be assign'd.

But of these simple Glands already describ'd, or of others highly similar to them, united by common Vessels, and wrapt up in a common Membrane, are form'd the compound or conglomerate Glands. These are generally furnish'd with a common Emisfary, which receives the Humours from all the Emisfaries of the other Parts, collects them, and discharges them again into some other larger Cavity. Of this Kind are, the Glands of the Eye, the Parotids, the Pancreas, and some others.

This common Cavity or Receptacle, ending in an Emisfary frequently, is either first chang'd, as it were, into an arterial inflected Vessel, which induces some Change in the Humours they convey, and by an Apparatus like an Artery discharges them into an open and patent Receptacle; as in the Testes, the *Ductus Highmorianus*, the *Epididymis*, the *Vas Deferens*, and the *Vesiculæ Seminales*; or, secondly, it is immediately convey'd into a common Emunctory.

Hence 'tis certain, that, by means of the Glands, there are separated from the arterial Blood Water, Lymph, a fine Serum, and also the Salts, Spirits, and highly subtile Parts of the Oils, mix'd with these; that all these, either becoming stagnant, are collected, chang'd, and accumulated in certain Places; or forc'd through the small Vessels into the most minute Parts of the Body, for the Purposes of Motion and Nutrition, and thence return to the Heart by their proper Veins, or are exhal'd; and that the Part of the Blood, after this, remaining in the Arteries, enters the Veins, which become gradually wider, is mix'd with similar Blood, diluted with Lymph, and returns to the Heart.

For this Reason the arterial Blood is, about the Heart, highly diluted, but gradually becomes thicker, and is thickest of all, most viscid, and easily concreted, in the End of the Artery, that is, the Beginning of the Vein; for which Reason it requires a Vessel incapable of Obstruction, and an Admixture of some diluting Liquor, that is, of Lymph, which has assum'd its due Quality by having perform'd its several Offices, and is returning to the Heart. It, also, requires an Admixture of Spirits. But these Circumstances must happen to it, before it can be again convey'd into the pulmonary Arteries; otherwise the Blood would only be fit for performing one Course of Circulation.

Hence we know the particular Parts, the Disorders of which most eminently endanger Health, and the Continuation of Life. Hence, also, we know, how much the large Vessels, the thick Humours, the small Vessels, and the subtile Humours, contribute to the Strength, Stability, and Flexibility of the Body. Hence, farther, we understand, why the Veins becoming gradually larger, lax, fit for the Concourse and Dilution of the Humours, should perform their respective Offices, before a fresh Return of the Blood to the Heart can be produced.

But some Glands seem to be of another Structure; since, in them, the Artery, conveying the Humours, discharges the thicker Blood into its corresponding Vein, by means of Anastomoses running between the Artery and the Vein; but, after this, the Artery going on single, and being contorted, discharges from its Extremity, into the common Receptacle, its proper Liquor, prepar'd in it, but different from the Blood, tho' secreted from it. *Boerhaave's Instit.*

GLANDULOSOCARNEUS, glanduloso-carneous, an Epithet, given by M. Ruysch, to some Excrecences, which he observ'd in the Bladder. *Castellus.*

GLANDULOSUM Corpus. The Prostate, so called.

GLANIS. The Name of a Fish, which lives both in fresh and salt Waters. It is suppos'd to be like the *Silurus*, or Shore-fish. *Castellus.*

GLANS, βάλανος. See BALANOS. *Glans unguentaria.* See BALANUS MYREPSICA.

Glans is also taken for strumous or scrophulous Tumors. *Castellus.* *Glandes Quercinae.* See QUERCUS.

Glans is, in Anatomy, the Nut of the Penis. See GENERATIO.

Glans, also, signifies a Suppository, or Pessary.

GLASSA. A sort of dry Vernish. *Rulandus. Johnson.*

GLASTAVIDA *Cretensium.* A Species of BLATTARIA; which see.

GLASTEIA Bilis. A sort of Bile, the same as the βάλανος, which see under BILIS.

GLASTUM. A Name for the *Isatis*; *sativa*; *sive latifolia*.

GLAUCEO. The same as GLAUCOMA. See CATARACTA.

GLAUCIUM.

The Characters are;

The End of the Pedicle is expanded into an orbicular Placentula, terminated by a hollow spherical Substance, to which it grows. The Calyx consists of two Leaves, and is caducous: The Flower is tetrapetalous, expanding in form of a Rose, or Poppy, and furnish'd with very numerous Stamina, which, for the most part, fall off, after the Opening of the Flower. The Ovary arises from the Bottom of the Placentula, with a hairy bifid Apex; and ripens into a long, smooth, bivalve Pod, the Valves adhering to the intermediate Partition, in such a manner as to leave the whole Capacity unicapular, and full of roundish Seeds.

Boerhaave mentions four Species of this Plant; which are,

1. Glaucium; flore luteo. *Tourn. Inst.* 254. *Boerb. Ind.* A. 305. *Papaver Corniculatum.* Offic. *Papaver corniculatum luteum.* J. B. 3. 398. *Park. Theat.* 261. *Raii Hist.* 1. 857. *Synop.* 3. 309. *Papaver corniculatum luteum, καρχήδονος Dioscoridi, & Theophrasti, sylvestre, Ceratidis, Plinio.* C. B. P. 171. YELLOW-HORNED POPPY.

Dioscorides says, this Plant is diuretic; and *Galen* looks upon it to be vulnerary and deterfive; but he considers not, that it must be used only to eat away the proud Flesh of Ulcers. Nevertheless, in *Portugal*, they give the Infusion of half a Handful of it, in White-wine, to those who are subject to the Stone. In *Provence* they use the same Leaves, bruised, for Ulcers, and, above all, for the Wounds of Horses. *Martyn's Taurnesfort.*

2. Glaucium; hirsutum; flore phœnicco. *T.* 254.

3. Glaucium; glabrum; flore phœnicco. *T.* 254.

4. Glaucium; flore violaceo. *T.* 254. *Boerb. Ind. alt. Plant. vol. 1. p. 305.*

The *Argemone Mexicana*; of *Boerhaave*, is the Glaucium. Offic. *Papaver Spinosum.* C. B. P. 171. J. B. 3. 397. *Ger. Emac.* 401. *Raii Hist.* 1. 856. *Papaver spinosum americanum.* *Park. Theat.* 366. PURGING THISTLE.

It is cultivated in the Gardens of the Botanists, and flowers in *July* and *August*. The Juice, which bears the Name of Glaucium, is the Part used; and, being, as *Dioscorides* says, of a refrigerating Quality, is effectual in recent ophthalmic Disorders.

From what Plant this Juice, or Glaucium, of *Dioscorides*, is express'd, remains a Controversy among Botanists. *I.*, says *Dale*, with *C. Bauhine*, have suppos'd it to be produc'd from the Plant before-mention'd, being induced thereto by the Description; which Description he gives of it as follows: "Glaucium is the Juice of an Herb, which grows near *Hierapolis*, a City of *Syria*; its Leaves nearly resemble those of the horned Poppy, only fatter, and spreading upon the Ground, of a strong Smell, and a bitter Taste; the whole Plant is full of a Saffron-colour'd Juice. The Natives of the Country put the Leayes into an earthen Pot, which they place in their Ovens, when half cold, and keep it there till the Leaves become flaccid; then take it out, and, bruising the Leaves, express the Juice."

GLAUCOMA, or GLAUCOSIS. A Disorder of the Eye. See CATARACTA.

GLAUCOS, γλαυκός. A Colour compos'd of a White and Green. Sky-colour'd.

GLAURA, in *Paracelsus*, is immature Amber, call'd also, *Nympha*.

GLAUX. Offic. *Glaux Dioscoridis.* *Ger.* 1061. *Emac.* 1242. *Glaux Hispanica.* J. B. 2. 341. *Glaux Hispanica Clusii.* *Park. Theat.* 1095. *Raii Hist.* 1. 940. *Ciceri sylvestris minori affinis, si non idem.* C. B. P. 347. THE MILKWORT OF DIOSCORIDES.

It grows in hilly and chalky Fields, and the Herb is in Use, which, boil'd in Barley-water, is effectual, as *Dioscorides* says, for renewing Milk in Womens Breasts, where it is lost.

There is a Dispute, among the Botanists, about the Glaux of *Dioscorides*. *Anguillarus*, *Parkinson*, and *Alpinus*, will have it to be the *Lotus*; *Gesner*, the *Onobrychis*; *Turner*, the *Glaux vulgaris* (Liquorice-vetch); *Dodonæus*, *Cordus*, and *C. Bauhine*, a Species of a certain small marine Plant; *Lobel*, *Gerard*, and *Clusius*, the Plant here exhibited, and describ'd by *Dioscorides*, as follows: "The Glaux has Leaves like those of the Cytisus, or Lentil, green on the upper Side, and whitish underneath. The Root sends forth five or six slender Stalks, a Span high; the Flowers are of a purple Colour, and resemble those of the *Leucium*, (Stock-gilliflower) only smaller." *Dale*.

The *Astragalus γλαυκός* of *Boerhaave* is the *Glaux vulgaris*. Offic. *Glaux vulgaris leguminosa seu Glycyrrhiza sylvestris.* *Park. Theat.* 1098. *Raii Hist.* 1. 935. *Glycyrrhiza sylvestris floribus luteo-palescentibus.* C. B. P. 352. *Astragalus luteus perennis procumbens vulgaris seu sylvestris.* *Raii Synop.* 3. 326. *Tourn. Infl.* 416. *Fennum Græcum sylvestre, seu Glycyrrhiza sylvestris quibusdam.* J. B. 2. 330. *Hedysarum Glycyrrhizatum.* *Ger.* 1056. *Quoad descript.* *Emac.* 1233. LIQUORICE-VETCH.

It grows in Bushes and Thickets, and on the Borders of Fields, and flowers in *July*: The Herb and Seed are in Use, which

which agree in Virtues with the Milkwort of *Dioscorides*. The Herb, as *Buxbaums* writes, is deceitfully sold, in the Shops, for *Galega*. *Dale*.

Under the Article *ASTRAGALUS* I have, by Mistake, apply'd the Account which *Tournefort* gives of this Plant to the *Astragalus*, Offic. Which is, that the Root is sweetish, astringent, and gives a deep Tincture of Red to the blue Paper; the Leaves give it hardly any; they are bitter, and smell like Elder; which shews, that the fetid Oil is found in greater Quantity in the Leaves, and that it involves the acrid Salt and Earth: This Plant is not in Use; nevertheless, a Night's Infusion of it, in Wine, is given, with Success, for the Retention of Urine, and for the Gravel, by some Herbarists, at *Paris*. *Martyn's Tournefort*.

GLAUX. The Owl. See *NOCTUA*.

GLECHON. γλίχων, or γλίχθ. Penny-royal. See *PULEGIUM*. *HIPPOCRATES*.

GLECHONITES, γλεχονίτης. An Epithet for Wine, impregnated with Penny-royal. *Dioscorides*, L. 6. C. 5. C. 67.

GLENE. γλήνη. This properly signifies the Cavity of the Eye, and the Pupil: But it is used to express any slight Depressure, or Cavity of a Bone, which receives another Bone, in Articulation. *Cotyle* is, also, such a Cavity, or Depressure, but much more deep.

GLENOIDES. An Epithet for two Cavities, or small Depressures, in the inferior Part of the first Vertebra of the Neck.

GLEUCINUM (*Oleum*), γλεῦκνον (έλαιον), or Gleucine-oil. Simple Gleucinum is prepar'd of *Oleum Omphacinum*, *Juncus*, *Calamus*, *Celtic Nard*, *Spatha*, *Aspalathus*, *Melilot*, *Costus*, and *Must*, put together into a Vessel, which is to be surrounded with the Husks of Grapes, after pressing out the Wine. This Mixture is to be stir'd twice a Day, for thirty Days; then the Oil is to be press'd out, and reserv'd for Use.

It is warming, emollient, and relaxing; and, therefore, good in Rigidities, and Disorders of the nervous Parts, and Affections of the Uterus. *Dioscorides* prefers this before all sorts of *Acopa*, *Lib. 1. Cap. 67*.

Aetius, *Tetrab. 3. Serm. 4. Cap. 44*. gives the Description of a much more compounded Gleucinum.

GLEUCOS, γλεῦκος, Must. The unfermented Juice of the Grape. *Vander Linden* says, it sometimes imports sweet, generous, and strong Wine.

GLEUXIS, γλεῦξις. Wine which has a large Quantity of Sapa, or *Defrutum*, mix'd with it.

GLIS. Offic. *Gesn. de Quad. Digit. 550.* *Aldrov. de Quad. Digit. 409.* *Glis Gesneri & aliorum.* *Raii Synop. A. 229.* THE RELL, or RELL-MOUSE.

The Flesh, if eaten, is said to cure the *Bulimia*; if the Soles of the Feet are anointed with the Fat, it is said to procure Sleep; the Excrements, drank in any convenient Vehicle, have the Reputation of dissolving the Stone; and, mix'd with Vinegar and May-dew, to cure an *Alopecia*, the Part affected being anointed therewith; the Ashes clear the Sight. *Dale*.

GLISCHROCHOLOS, γλισχροχολος. An Epithet for Excrements which are viscid, and, at the same time, bilious.

GLISCHROS, γλισχρος. Viscid, or glutinous; in *Latin lentus*. In the seventh Book of *Hippocrates's Epidemics*, τρεῖς γλισχροί, are slow Fevers, the same as *lentæ Febres*.

GLISOMARGO. White Chalk. *Rulandus*.

GLOBULARIA.

The Characters are;

The Floscules are unilabiated, multifid, connected each to its proper Calyculus, and collected very many together into one globous showery Head, surrounded with one common Calyx. The Calyculus, or little Flower-cup, of the Floscule becomes a Capsule, which contains the Seed, and is affix'd to the common Placenta.

Boerhaave mentions but one Species of this Plant; which is,

Globularia; vulgaris. *Tourn. Inst. 467.* *Boerb. Ind. A. 131.*

Globularia. Offic. *Globularia Monspeliensis Bellis cœrulea*. *Parlk. Theat. 529.* *Bellis cœrulea Monspeliaca.* *Ger. 512.* *Emac. 637.* *Raii Hist. 1. 381.* *Bellis cœrulea caule foliisfo.* *C. B. P. 262.* *Aphyllanthus Anguillara, sive Globularia Bellidi similis.* *J. B. 3. 13.* FRENCH DAISY.

It is to be found in the Gardens of the Curious, and flowers in Summer. The Plant is a Vulnerary. *Dale*.

GLOEOS, γλοιός. The strigmentitious Serpes scrap'd from the Skin, after Exercise, or in the Baths. See *STRIGMENTA*. Hence γλοιώδης, strigmentitious.

GLOSSA, or **GLOTTA**, γλῶσσα, or γλῶττα. The Tongue. See *LINGUA*.

GLOSSOCATOCOS, γλωσσοκάτοκος. A surgical Instrument, for depressing the Tongue. *Paulus Aegineta, L. 6. Cap. 30.*

GLOSSOCOMON, γλωσσοκόμων, or **GLOSSOCOMION**, γλωσσοκόμιον, in Surgery, is the Name of an Instrument, or Sort of Case, contriv'd for containing a fractur'd Leg, or Fe-

mur. It is not at present in Use. *Gorræus* gives a Figure of it, from *Oribasius, de Machinamentis, Cap. 7.*

GLOSTOPETRÆ. The petrified Teeth of the Serpent, or of the *Canis Carcharias*, white Shark. See *CANIS CARCHARIAS*.

GLOTTA. See *GLOSSA*.

GLOTTIS, γλωττις. The Chink in the Larynx, through which the Air passes into the *Aspera Arteria*.

GLUMA. The Husk or Chaff of Corn.

GLUTÆUS. The Name of three Muscles, which form the Buttocks, call'd *Glutæus maximus*, *Glutæus medius*, and *Glutæus minimus*.

GLUTÆUS MAXIMUS,

So call'd from its being the largest Muscle of those which compose the Buttocks. It has a large semicircular Beginning; forwards, merely tendinous, from near two thirds of the external Part of the Spine of the *Os Ilium*; backwards its Origination is thick and fleshy, from the posterior Part of its Spine, and hindmost Part of the *Os Sacrum*, laterally, and whole *Os Coccygis*, as also from a broad Ligament that is extended between the two last-nam'd Bones, and Tubercle of the *Os Ischium*; its fleshy Fibres descending disgregately, in an almost semicircular manner, become tendinous as they approach the great Trochanter, where it is united with its first describ'd tendinous Beginning, descending over the external Part of the great Trochanter, after being join'd with the Tendon of the *Membranofus*, proceeds to cover and strictly embrace all the external Muscles of the Tibia, like the external Tendon of the *Biceps* those of the Cubit. But the other Part of it, proceeding from the fleshy Body of this Muscle, is largely inserted into the *Linca Aspera*, on the back Part of the *Os Femoris*, near four Fingers-breadth below the great Trochanter.

The first-describ'd tendinous Beginning of this Muscle doth not only serve to support its fleshy Body, but its Fibres, intersecting those of the *Membranofus*, as they cover all the Muscles of the Tibia, do more adequately include them, whereby they are corroborated in their Action. When this Muscle acts, it pulls the Thigh directly upwards.

GLUTÆUS MEDIUS.

This lies principally under the tendinous Beginning of the former Muscle; and, arising fleshy from almost the whole external Part of the Spine of the *Os Ilium*, in its Descent becomes thicker and fleshy, and is inserted, by a short strong Tendon, to the superior and external Part of the great Trochanter, in a semicircular manner.

If the differing Series of Fibres in this Muscle are rightly consider'd, their Position will manifest they are not so useful in extending the Thigh, as Authors would persuade us, but rather employ'd in turning it inwards. This will plainly appear, if, in the time of Dissection, you give the Thigh that Motion; you then may observe the fore Part of this Muscle notably relax'd. And in living Persons, when the Thigh is turn'd inwards, you may see it tumefied; or if, in performing that Action with your own Thigh, you lay your Thumb on this Muscle, you may feel it contract or move under the Skin. Besides its being partly useful in extending the Thigh, with the former Muscle, it is also employ'd in divaricating the Legs, it co-operating with the *Musculus Membranofus* in that Action.

GLUTÆUS MINIMUS

Lies totally under the former Muscle, it being so much less than the former, as the former is the precedent; it ariseth semicircular, broad, and fleshy, from the *Dorsum Ilii*; from hence its fleshy Fibres descend to their partly tendinous and partly fleshy Insertion, like the former, at the superior Part of the Root of the great Trochanter.

The Fibres of this, running parallel with those of the former, assist it in all its Actions. They also assist in rendering the Articulation of the Thigh-bone, with the *Coxa*, more stable in standing erect. *Couper's Myotomia Reformata*.

GLUTEN. Gluc. *Dioscorides, Lib. 3. Cap. 101.* gives the following Account of Glue, and its Virtues.

Glue, which some call *Xylocolia*, or *Taurocolia*, is best made at *Rhodes*, of Bulls Hides, and is white and pellucid; the black Sort is not so good.

Dissolv'd in Vinegar, it cleanses the Skin from the Lichen and Lepra; infus'd in warm Water, and the Parts anointed therewith, it prevents Ambuissions from rising into Vesicles; and, diluted with Honey and Vinegar, it proves a good Vulnerary.

GLUTIA. The Nates; two small Protuberances of the Brain. See *CAPUT*.

GLUTINATIO. The same as *AGGLUTINATIO*.

GLUTOS, γλῦσις. A Buttock.

GLUT.

GLUTTUPATENS. An Epithet for the Stomach, in *Q. Serenus Samonicus*.

GLYCYRRHIZA.

The Characters are ;

The Pod is short, unicapular, and full of kidney-shap'd Seeds ; the Leaves grow by Pairs to a Rib, which ends in an odd Leaf.

Boerhaave mentions three Species of this Plant ; which are,

1. *Glycyrrhiza* ; filiquosa ; vel Germanica. *C. B. P.* 352. *Tourn. Inst.* 389. *Boerb. Ind. A.* 2. 47. *Glycyrrhiza*, *Liquiritia*. *Offic. Glycyrrhiza vulgaris*. *Ger. Emac.* 1302. *Raii Hist.* 1. 910. *Synop.* 3. 324. *Glycyrrhiza radice repente, vulgaris Germanica*. *J. B.* 2. 328. *Glycyrrhiza filiquosa vulgaris*. *Park. Theat.* 1098. **LIQUORICE.**

Liquorice has very long Roots, of a brown Colour without, and of a greenish-yellow within, tough and pliable, and with few Knots or Joints. They are full of a very sweet Juice. In the Spring it sends forth long striated Stalks, three or four Foot high, beset alternately with pretty large wing'd Leaves, made of eight or ten double Pinnæ, with an odd one at the End ; they are of an oval Form, and feel clammy to the Touch. From the Bosom of the Leaves, towards the Tops of the Branches, after the Root has been some time in the Ground, spring long slender Spikes of small, blue, papilionaceous Flowers, and after them small erect Pods, holding the Seed. It is frequently planted in Gardens and Fields, and flowers in *August*.

The Roots of Liquorice, which are the only Part us'd, are a good Pectoral, and of great Use in Distempers of the Lungs, as Coughs, Shortness of Breathing, mitigating the acrimonious Particles which cause Soreness of the Aspera Arteria, and Hoarseness, as well as the Heart-burn. They are likewise good in nephritic Affections, as Stone, Gravel, Stoppage and Heat of Urine, and Ulcers in the Kidneys.

There are two kinds of the inspissated Juice sold in Shops ; one made in *England*, and prepar'd of the Decoction of the Roots mix'd with the Pulp of Prunes, and made up into Balls ; the other is imported from *Spain*, being made near *Tortosa* in *Catalonia*, and brought to us in beautiful shining brittle Lumps, wrapt in Bay-leaves. The Way of preparing it is as follows :

The Liquorice is first dry'd, and cut in small Pieces, then boil'd in Water. This Decoction, being first filter'd, is evaporated to the Consistence of an Extract, which is what we call an inspissated Juice.

It is a good Emollient and Healer, proper for Coughs, and for promoting Expectoration, because the viscid Parts, which it contains, sheath and blunt the acrid Salts. It ought to be given in small Quantities, and often repeated, being otherwise disagreeable to the Taste. *Dale. Geoffroy.*

Liquorice, with us, is principally cultivated at *Pomfret*, in *Yorkshire* ; and *Workop*, in *Nottinghamshire* : The *English* Liquorice is prefer'd to what is imported. The Leaves and Stalk perish every Winter, and are renew'd in the Spring. *Tragus* prefers the Root, and its Juice, before Sugar itself : Every one, says he, knows, that bitter Things and Sugar excite Thirst, which this sweet Root and its Juice extinguish. The Bark, says *Dodonæus*, has something of Bitterness, and is of an hotter Quality than the other Parts, and, therefore, ought to be scrap'd off. But *C. Hoffman* says, we are not to regard this ; for the Bitterness is something more internal, being increas'd by long Boiling, as it is in other sweet things, and gives it an absterfve Quality. Liquorice, boil'd in Water with a little Cinnamon, serves some for their ordinary Drink ; and, after Fermentation, inebriates no less than Beer. *Raii Hist. Plant.*

2. *Glycyrrhiza* ; capite echinato. *C. B. P.* 352. *Tourn. Inst.* 389. *Boerb. Ind. A.* 2. 47. *Radix dulcis*. *Offic. Glycyrrhiza echinata*. *Park. Theat.* 1099. *Raii Hist.* 1. 914. *Glycyrrhiza echinata Dioscoridis*. *Ger.* 1119. *Emac.* 1302. *Glycyrrhiza echinata Dioscoridis non repens*. *J. B.* 3. 327. **ROUGH-HEADED LIQUORICE.**

It is planted in Gardens ; the Root is us'd, and agrees in Virtue with the common Liquorice. The Powder of the Root, as we are told by *Dioscorides*, is very proper to be sprinkled on a Pterygium. *Dale.*

3. *Glycyrrhiza* ; Orientalis ; filiquis hirsutissimis. *T. C.* 26. *Boerb. Ind. alt. Plant. Vol. 2. p.* 47.

GLYCYS, γλυκύς. When us'd relative to Tastes, it signifies *sweet* ; when apply'd to the Humours, it imports *mild*.

GLYCYSIDE, γλυκυσίδη. Peony. A Plant much recommended by *Hippocrates* and *Dioscorides*, in the Disorders peculiar to Women. See **PÆONIA**.

GLYXIS. See **GLEUXIS**.

GNAPHALIUM.

The Characters are ;

It has downy Leaves, and the Appearance of the Filago ; the Calyx is hemispherical and squamous ; the Floscules are tubulous, quinqueseid, and interspers'd with small Leaves ; the Seeds are secur'd within a solid Calyptra, or Covering.

Boerhaave mentions but one Species of this Plant ; which is the

Gnaphalium ; maritimum. *C. B. P.* 263. *Raii Hist.* 1. 294. *Synop.* 3. 18. *Tourn. Inst.* 461. *Boerb. Ind. A.* 119. *Gnaphalium maritimum multis*. *J. B.* 3. 157. *Gnaphalium maritimum*. *Ger.* 516. *Emac.* 640. *Gnaphalium maritimum, seu Cotonaria*. *Park. Theat.* 687. *Polium Gnaphalodes*. *Alp. Exor.* 146. *Tourn. Voy.* 1. 21. **SEA CUDWEED, or COTTON-WEED.**

Lemery says, that this Plant is deterfve, desiccative, and very restringent.

GNAPHALIUM is also a Name for the **FILAGO** ; which see. As also for several Species of *Helichrysum*. And a Name also for the **GNAPHALODES** ; which see.

GNAPHALODES.

The Flowers consist of Florets ; in some Plants they are apetalous, Male, and representing a Discus. The Ovary is constituted of Embryos growing in a Circle, supported by the Florets, and ripening into a crested Fruit, full of oblong Seed.

Boerhaave mentions but one Species of this Plant, which is the

Gnaphaloides ; Lusitanica. *T.* 439.

There are no medicinal Virtues attributed to this Plant, that I know of.

GNATHOS, γνάθος. Sometimes it signifies the entire Cheek ; sometimes only the lower Part, betwixt the Angles of the Mouth and Ear, which the *Latins* call *Bucca* ; but it is also us'd to express the Jaws, or Jaw-bones.

GNESIUS, γνῆσιος. Legitimate, or genuine. It is frequently an Epithet, in *Hippocrates*, for Distempers ; and is also applied to Sweats.

GNIDIA GRANA. See **CNIDIA**.

GOACONEZ. The Name of a very large Tree in *America*, which affords a sort of Balsam. It is call'd *Balsamum purius*, *Monard.* *Balsamum album*, *Park. Americumum*, *C. B. Raii Hist. Plant.*

GOAN. The Name of a Tree which grows in *Persia*, near *Ormuz*, of the Ashes whereof they make a sort of Tuty, or rather Antispodon. See **ANTISPODA**.

GOBIUS. The Gudgeon.

There are two sorts of Gudgeons, as the Sea and Fresh-water Gudgeon. The first is subdivided into two other, of which the one is white, and the other black ; they have both of them a good Taste, though the white has the Preference. Both the Sea and River-gudgeon ought to be well fed ; and those that have been bred in clear and running Water are the best.

The Gudgeon yields pretty good Nourishment, produces good Juice, is easy of Digestion, and provokes Urine. Several Authors affirm, that People recovering from Sickness may eat it.

It produces no ill Effects, unless us'd immoderately.

It contains much Oil, and volatile Salt.

It agrees, at all times, with any Age and Constitution.

A Gudgeon is soft, and not compact in its Parts, and hath but few viscous and gross Humours ; and, therefore, is easily digested, and of a pleasant Taste. *Lemery on Foods.*

The Sea-gudgeon is thus distinguish'd ;

Gobius niger. *Offic. Rondel. de Pisc.* 1. 200. *Jonf. de Pisc.* 35. *Gesh. de Aquat.* 395. *Aldrov. de Pisc.* 97. *Gobius niger Rondeletii*. *Raii Ichth.* 106. *Ejusd. Synop. Pisc.* 76. *Gobius marinus*. *Charlt. de Pisc.* 15. *Gobius marinus niger*. *Bellon. de Aquat.* 233. *Gobius, vel Gobius niger*. *Sconef. Ichth.* THE SEA-GUDGEON, or ROCK-FISH.

It is taken among the Rocks by the Sea-shore. Broil'd, and eaten without Salt, it cures the Dysentery, Lientery, and Tenesmus. *Sim. Sethi.*

A fresh Gudgeon, put into an Hog's Ventricle, or Maw, and the Aperture sew'd up ; if the same be afterwards boil'd in twelve Pints of Water, till they are reduced to two, and the Liquor strain'd off, and suffer'd to cool in the open Air, when drank, it purges by Stool, without Perturbation. The Fish, applied in a Cataplasm, is good against the Bites of Dogs and Serpents. *Dioscorides, Lib. 2. Cap.* 32.

GOMPHIASIS, γομφίασις. A Word us'd by *Dioscorides*, *Lib. 2. Cap.* 63. which his Interpreters explain, Pains of the interior Teeth. *Castellus* thinks it means, Vacillation of the Teeth.

GOMPHIOI, γομφιοί. The Dentes Molares.

GOMPHOSIS, γομφωσις, or Gomphoma, from γομφός, a Nail. A Species of Articulation peculiar to the Teeth. See **ARTICULATIO**.

GONAGRA, from γόνυ, the Knee, and ἄγος, a Prey. The Gout in the Knee.

GONANDINA *Brasilienfis*, *Marcgr.* The Name of a tall Tree, which grows in *Brasil*. *Raii Hist. Plant.*

GONE, γόνι. The Seed ; but it also signifies, in *Hippocrates*, the genital Organs, particularly of Women ; or the Uterus.

GONGRONA, γογγρόνη, from γόγγρος, a round Tubercle in the Trunk of a Tree. Any round and hard Tumor of the nervous Parts ; but, particularly, a **BRONCHOCLE** ; which see.

GONGYLIS. The Root of a Turnep.

GONGYLION. A Pill.

GONIMOS, γονιμος. An Epithet for Days, frequently us'd by *Hippocrates*, importing their being odd, or uneven, and critical. It also imports prolific, vital, and genuine.

GONIOSIS, γωνiosis, from γωνία, an Angle, is a Species of Pulse, not improperly, as *Galen* says, so called by *Archigenes*, which strikes not with the whole Circle of the Artery, but only with an Angle of it, or when the elevated Artery is not felt like the curve Line of a Circle, but like the Vertex of a Triangle. The Cause hereof is to be ascribed to the Imbecillity of the Faculty, which renders it incapable of duly elevating the Artery.

GONOIDES, γονοειδής, from γονή, Seed, and εἶδος, Form; resembling Seed. *Hippocrates*, in many Places, uses this as an Epithet for the Excrements of the Belly, and for the Contents of the Urine, when there is something in them which resembles the seminal Matter.

GONORRHŒA, from γόνος, Seed, and ῥέω, to flow; an involuntary Efflux of the seminal Juice. Authors take notice of three Species of Gonorrhœas. The first is a simple Gonorrhœa, or perpetual Efflux of the seminal Juices, without any Virulence. The second is a virulent, or Venereal Gonorrhœa, so call'd, tho' improperly, from its Similitude to the preceding. The third is an involuntary Efflux of a viscid, white, or whitish Fluid, from the Urethra, in consequence of a Venereal Gonorrhœa ill cur'd, or too frequently repeated.

The first Species, or a simple Gonorrhœa, is thus describ'd by *Arctæus*:

The Gonorrhœa is not a deadly Distemper, but noisome, and even indecent to be mention'd; for if the Distemperature and Relaxation affect the Humours, and the Parts of Generation, there is a perpetual Efflux of the seminal Juice through the refrigerated Places, which is not to be restrained even in Sleep; but, whether the Patient be sleeping or waking, the Flux is continual, and at the same time insensible. Women, also, labour under the same Disorder, but with some Sense of Pleasure, whereas Men have none at all. The Matter of the Flux is an humid, thin, cold, colourless Substance, which is void of Fecundity; for how is it possible, that Nature thus refrigerated should emit a prolific Juice? Young Men affected with this Disorder must of necessity become old in Habit of Body, slow, languid, spiritless, dull, silent, feeble, wrinkled, unactive, pale, white, effeminate, of a weak Appetite, cold, with a Heaviness of the Limbs, and a Numbness of the Legs, weak, lazy, and indispos'd for all manner of Action. In many Subjects this Disorder is the Forerunner of the Palsy; for how is it possible for the Nerves not to suffer under a Decay of their Forces, when Nature, as the generating Principle of Life, is infrigidated? since it is the vital Seed which makes us Men, hot, robust, hairy, of a strong and deep Voice, bold, and courageous, and fit to contrive or execute any Enterprize. Men are a Proof of this; whereas they who are destitute of vital Seed are wrinkled, weak, of a shrill Voice, without Hairs, beardless, and effeminate; such are Eunuchs. But the Man who is retentive of the seminal Juices becomes bold, hardy, and strong, like the Beasts of the Forest; witness the *Athletæ*, who lead a chaste Life. And they who by Nature were stronger than others, have, by Intemperance render'd themselves much weaker than those who were naturally weak; and those who were much weaker by Nature, have by their Temperance become superior in Strength to those who were stronger; for nothing renders an Animal robust, but the seminal Juice, which is therefore of great Efficacy and Importance towards Health, Strength, and Magnanimity, as well as Procreation. A *Satyriasis* usually degenerates into a *Gonorrhœa*. *Arctæus de Caus. & Sign. Chron. Morb. Lib. 2. Cap. 5.*

A Gonorrhœa would furnish Materials for an entire Volume; but, that I may be as short, and, at the same time, as instructive as possible, I shall give the Sentiments of some of the most celebrated Authors among the Moderns upon this Subject.

Among the Disorders arising from a Want of a due Tone in the solid Parts, we may justly reckon a Gonorrhœa, which is an involuntary Discharge of the Seed, and of a Matter resembling it, from the Genitals, produc'd by a preternatural Relaxation of the Vessels containing the Seed, and of the Parts adjacent to them.

A Gonorrhœa is different from a Venereal Pollution, in which latter, sometimes at shorter, and sometimes at longer Intervals, a considerable Quantity, one or two Drains for Instance, either of pure seminal Juice, or of this together with a chylous Serum, are discharg'd in the Night-time, in consequence of Venereal Dreams, with a Sensation of Enjoyment. In the Day-time the same Accident happens upon viewing beautiful Women, or after Riding, in consequence of a Relaxation; and at the same time a gentle Irritation of the *Vesiculæ Seminales*, or *Prostatæ*.

A Gonorrhœa is either of a mild and benign, or of a malignant kind. The latter consists in a Discharge of Matter of

various Colours, accompanied with Heat and Exulceration; and, in scorbutic or cacochymic Patients, as also those afflicted with the Stone, this Disorder is generally attended with a Pain in discharging the Urine, which in such Patients is of an acrimonious Quality. But, in a Gonorrhœa of a mild or benign kind, a whitish Liquor, all of one Colour, is discharg'd without Pain, Heat, or Exulceration; and this Species bears a near Resemblance to the *Fluor albus* in Women, which is a Discharge of a chylous Matter, separated by means of the glandular Substance of the Uterus. *Maffarias*, in his fourth Book, beautifully delivers his Sentiments on this Subject in the following Words: "Those Physicians, in my Opinion, err egregiously, who think that their Patients labour under an Effusion of Seed, since they are rather afflicted with an Evacuation of some other recrementitious Matter; for we observe, that this Discharge has with some Patients lasted for several Years, so that if the Matter evacuated was Seed, these Patients must necessarily be extenuated, and thrown into a Consumption, like those who use immoderate Venery; which, in the mean time, we find does not happen."

This Species of Gonorrhœa mention'd by *Maffarias* is not only protracted for a long time, but there are also signal Instances both of benign and malignant Gonorrhœas continuing for several Years. Thus *Bartholine*, in *Hist. 36. Cent. 2.* and in *Anat. Lib. 1. Cap. 23.* makes mention of two Men, one of whom had a malignant Gonorrhœa, protracted for ten Years; and the other labour'd under the same Disorder for thirty Years; but it was uncertain whether it was of the benign or malignant kind. The former of these Patients was extremely emaciated; but in every other respect both of them had all the Symptoms of good Health.

There is also a virulent Gonorrhœa, which arises from a Venereal Contagion, and affects those who imprudently pursue illicit Venereal Enjoyments. This Species of the Disorder discovers itself not only by the Discharge of a Matter of different Colours and Consistences, but also by an uncommon Loss of Strength. Unless speedy Measures of Relief are taken, this Disorder is attended with large Tumors of the Testicles and inguinal Glands, as, also, with inflammatory Ulcers of the Glans and Prepuce, and a painful Incurvation of the Penis: Urine, also, full of Filaments resembling small Worms, is sometimes discharg'd. When the Disorder becomes virulent, is of long standing, or has been preposterously or unskilfully treated, the Taint is convey'd thro' the lymphatic Vessels, and affects the finest and most fluid Part of the Blood. Upon this the Symptoms of a Pox discover themselves, such as lancing Pains of the Head and Joints, which are most intolerable in the Night-time, Ulcers of the Fauces, a Consumption of the Bones of the Nose, Pustules in the Glands resembling the Nature of a Cancer; Leanness of the whole Body, accompanied with Paleness of the Countenance, hollow Eyes, and tophaceous Indurations.

These are the general Symptoms which either accompany or succeed this Disorder; but we shall proceed to a more accurate History of it. Soon after unlucky Embraces, a gentle Discharge begins, and becomes worse on the third, fourth, and subsequent Days. The Glans begins to be wet with a kind of thin Seed, is afterwards cover'd with a whitish kind of Colluvies, and Stains are found on the Patients Linen. In the Beginning the Matter discharg'd is whitish; but, if the Evacuation is continued for a considerable time, it becomes yellowish, and, at last, greenish. When the Urine is discharg'd, a burning and almost intolerable Pain is perceiv'd, first in the Glans, then about the Root of the Urethra, and, at last, thro' the whole Tract thereof; sometimes a continual Desire of discharging the Urine afflicts the Patient; and sometimes the Discharge of the Urine is much hinder'd, and almost suppress'd, on account of the uneasy Tension of the Penis, which in the Night-time is so great as to produce Pain, Hardness, and an Incurvation of the Penis; besides, there is so strong a Stimulus to Venery, that the Patient cannot, without the greatest Difficulty, abstain from it; and sordid Ulcers frequently appear on the Glans and Prepuce.

De Graaf, in his Treatise *de Virorum Organis Generationi dicatis*, thinks that the Seat of this Disorder is in the Prostatæ: And *Vesalius*, in the twenty-first Chapter of his fifth Book, informs us, that upon dissecting a Man who was executed, and before his Death had labour'd under an involuntary Discharge of Seed, he found all the Vessels, and especially those which reach from the Testicles to the Revolutions of the *Vasa deferentia*, highly lax and open; and therefore places the Seat of the Disorder there: But, for Reasons of sufficient Importance, I assert, that the true Seat of this Disorder is in the Coat of the Urethra, which, according to the Discoveries of *Cowper* and *Littre*, is furnish'd with a large Number of Glands: It is not, at the same time, to be denied, that sometimes, in virulent Gonorrhœas, the Disorder spreads so far as to infect the *Prostatæ* and *Vesiculæ Seminales*. This is sufficiently certain from the Dissections of those, who during their Lives, had for a long time continued under this Disorder; for in these

the *Prostatæ* have been found callous, scirrhus, and sometimes exulcerated.

In Women affected with this Disorder, small Ulcers appear in the *Corpus glandulosum*, or in the Part where the Lacunæ are situated, about and at the Termination of the urinary Passage. Thus *De Graaff*, in his Treatise *de Mulierum Organis Generationi dicatis*, informs us, that, upon dissecting the Body of a Woman who had labour'd under this Disorder, he found the *Corpus glandulosum* or *Prostatæ* lying about the Urethra affected, whilst, in the mean time, the Uterus and its Vagina were found and unaffected: Hence the Reason is obvious, why the Children of Women affected with this Disorder may be secure from it. *Palmarius*, however, is of a different Opinion; and, in the ninth Chapter of his Treatise *de Lue Venerea*, says, that the Neck of the Bladder is the Seat of this Disorder, because he met with an Ulcer there, remaining after the Cure of a Gonorrhœa, which, during the Remainder of the Patient's Life, discharg'd a purulent Matter, not unlike that which in a long-continued Gonorrhœa is generally discharg'd thro' the Urethra from the *Prostatæ*. 'Tis, besides, observable, that this Disorder does not rage with such Violence in Women as in Men, since the former may live a long time under it, whereas it much sooner proves fatal to the latter, if not remov'd.

The Cause of a virulent Gonorrhœa is a Taint, by impure Coition, convey'd from a Woman infected with a malignant Gonorrhœa, or a Lues Venerea, first, to the Genitals of a Man, and afterwards through the Pores, to the Lymph, or seminal Liquor, the due Crasis and natural Mixture of which it entirely destroys, by inducing partly a caustic and corroding, and partly a putrid State thereof. Hence arise the Pains, the Heats, the Tumors, the Inflammations, and the Exulcerations of the Genitals; for, at first, the Glans is only affected, whilst, in Coition, the Poison insinuates itself into the open Pores. Then, unless Measures of Relief are taken, it soon proceeds to the Glands of the Urethra, then to the *Prostatæ*, which are porous; and, after that, to the *Vesiculæ Seminales*. If the infected Lymph is convey'd to the inguinal Glands through these lymphatic Vessels, which *Cowper* discover'd to run from the Prepuce to the Groin; then a Venereal Bubo is form'd, which is a kind of hard Tumor, without Pain. But, if the Seat of the Gonorrhœa is deeper, and an Inflammation arises about the Beginning of the Urethra, where the *Vesiculæ Seminales* generally discharge the seminal Fluid; then these Vessels are so compress'd by the Tumor, that this Fluid cannot be convey'd to them; and hence arise Tumors of the Testicles.

In accounting for a benign Gonorrhœa, we are to have a due Regard to the seminal Juice itself, and the Tone of the seminal Vessels, which is generally weak and languid. 'Tis sufficiently certain, from Experience, that the Redundance of the seminal Fluid, arising from high Living in an unmarried State, or its Acrimony in cacochymic, scorbutic, or arthritic Patients, frequently produce a Gonorrhœa. That a Weakness of Tone in the seminal Organs may, also, produce this Disorder, is most certain; for all the Causes which are capable of weakening these Vessels, the most considerable of which are too great a Profusion of the seminal Fluid, whether by too frequent Embraces, nocturnal Pollution, or the preposterous Way of Venery by Manufoption, and a preceding virulent Gonorrhœa, dispose to a benign Gonorrhœa, especially in Persons who are naturally weak, or of a phlegmatic Constitution.

Both a virulent and benign Gonorrhœa are more easily remov'd, when recent, if treated with proper Remedies; on the contrary, if they have made some considerable Progress, and are attended with violent Symptoms, they are not to be cur'd without Difficulty; and may not only render Men incapable of propagating their Species, but, in Process of Time, bring on a Cachexy, and hectic Consumptions. With respect to the virulent Kind, we are, in a particular manner, to observe, that the greater the Infection is, the more violent and obstinate the Disorder will prove; though it rarely brings on a Pox, unless the Discharge is imprudently stop'd by the preposterous Use of Sudorifics, and Astringents, either internally or externally apply'd; for, immediately upon the imprudent Suppression of the Discharge, Buboës, Tumors of the Scrotum and Testicles, Caruncles of the Urethra, and other terrible Symptoms, appear, together with a confirm'd Pox. The more regularly the Discharge is made, the more mild all the Symptoms are. But, it is a bad Sign, when it distils in too small a Quantity, and when the Urine discharg'd is highly fetid, and the Matter yellow or green. It is a certain Sign, that the Disorder is mitigated, when the painful Constriction of the Penis in Erection, and the Heat of Urine, are remov'd; when the impair'd Strength begins to return, and the Countenance, before pale, assumes a more natural and florid Colour: It is a Sign, that the Gonorrhœa is cur'd, if, upon compressing the Penis, a Drop or two of a limpid thin Liquor, resembling the White of an Egg, are discharg'd. As a benign Gonorrhœa is generally long protracted, and creates a deal of Trouble

to the Physician, so 'tis still more obstinate, when it succeeds a virulent Gonorrhœa, which it frequently does. But this Disorder differs according to the various Constitutions of Patients: Thus it remains for a longer time with those who are of phlegmatic Constitutions; or who, during their Youth, have been subject to catarrhal Defluxions, or Fluxes; for, as the Fibres of such Persons are naturally lax, we may justly conclude, that, as the Parts are depriv'd of their due Tone, this Disorder must be far more violent in them, than in others, whose Fibres are stronger.

As the Causes of a benign and virulent Gonorrhœa differ very widely from each other, so the Disorders themselves call for different Methods of Cure; and are, for that Reason, to be consider'd separately. The Cure, then, of a benign Gonorrhœa is highly difficult, as we have already observ'd; nor can we assign any other Reason for this, than that, in this Disorder, there is a preternatural Afflux of impure Humours from all the Parts of the Body, to those infected, which are already too much weaken'd, and have their Tone destroy'd. Besides, the Parts subservient to Generation, which are, in this Disorder, affected, consist almost entirely of Nerves, and nervous Coats; and it is not without the greatest Difficulty, as we learn from Experience, that the Energy of Medicines penetrates to them.

In the Cure of this obstinate Disorder, the following Intentions are to be pursued: First, The Redundance of impure Serum, if there is any such in the Body, is, by means of proper Laxatives, to be evacuated, and deriv'd from the Part affected. Then the too much relax'd and flaccid Parts are to be strengthen'd by proper corroborating Medicines, both of the external and internal Kind.

The former of these Intentions is answer'd by such Laxatives as operate in a double manner, such as the *Pilule Balsamicæ*, of *Becher*, and those directed by *Stahl*, which are not only purgative, but also highly corroborating. Besides, I have often found happy Effects produc'd by a laxative Infusion, prepar'd in the following manner:

Take of *Alexandrian* Rhubarb, one Ounce; of the Roots of Swallow-wort, of Burnet, and the Shavings of Sassafras, each half an Ounce; of Sena-leaves, of Agaric, reduc'd to Troches, and of the fibrous Part of black Hellebore, each three Drams; of Cardamoms and Cinnamon, each two Drams; of Currants, three Ounces: Mix all together, and infuse in two Pints of *Rhenish* Wine, the fourth Part of which is to be taken for a Dose.

After the Use of this Infusion, for eight Days, every Morning, in order to answer the other Intention, we are to use the following Powder:

Take of Cuttle-bone, one Ounce; of red Coral, Amber, the Species de Hyacintho, and the Bark of Cascarilla, each two Drams: Make into a Powder, one Dram of which is to be taken every Morning and Evening, in a Decoction of Barley, prepar'd with some Almonds. At the same time, I would have the following Epithem externally applied to the Region of the *Pubes* and *Perineum*, especially during the Night-time.

Take of the Herbs Baum, Mint, and Basil, of the Leaves of red Roses, and Balaustins, each one Handful; of Pomgranate-bark, Cloves, Nutmeg, Cardamoms, and Mallich, each half an Ounce: Mix together, and put into a small Bag, to be boil'd in red *French* Wine.

These Measures are to be seconded by an accurate Regimen: The Patient must, therefore, carefully abstain from Aliments prepar'd with Pepper, from Aromatics, saline Substances, leguminous and inflating Foods; as, also, from the immoderate Use of Wine and Beer: He ought, farther, to abstain from frequent Conversation with Women, from Venereal Encounters, and from violent Motion, especially that by riding in a Coach, or on Horseback. On the contrary, the Aliments most proper are Broths prepar'd of Oats, and reduc'd to an Emulsion, with the Yolks of Eggs, Sweet-almonds, and Pistaches; which are of singular Efficacy, in correcting the Acrimony of the saline Lymph. 'Tis, also, proper to use, for common Drink, either sweet Whey, or a Decoction prepar'd with the Roots of Viperagrass, China-root, red Sanders, Shavings of Sassafras, Liquorice, and Raisins.

If these should prove ineffectual, I, in order to remove inveterate Disorders of this Kind, generally recommend Baths, compos'd of the nervous Species and Corroboratives; such as Southernwood, Marjoram, Mint, Hyssop, Origanum, Mother of Thyme, Rosemary, and others of a like Nature. After bathing, let the Patient go to Bed, and promote a gentle Sweat. I have, with good Success, frequently recommended the Springs of *Lauchstad*, to be us'd for some Weeks, by way of Bath, since these Waters, in consequence of the highly subtille Crocus of *Mars* they contain, are of singular Efficacy in corroborating the relax'd Parts.

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This Method of Cure is highly effectual in putting a Stop to violent and weakening Pollutions; only the Purgatives must be less frequently exhibited; for, if there is a Necessity for rendering the Body soluble, that Intention may be answer'd by Preparations of Rhubarb and Raisins alone. In Cases of this Nature, besides the Medicines already mention'd, I would advise the following Plaister to be applied to the Region of the Loins, or to the *Spina Dorsæ*, near that Part.

Take of the *Emplastrum de Spermate Ranarum*, (see RANA) two Ounces; of the Sugar of Lead, and burnt Alum, each two Drams; of Camphire, and the Oil of Rose-wood, each half a Dram: Mix all together, and apply in the usual manner.

In this obstinate Disorder I have, also, observ'd very happy Effects produc'd by a proper Use of cold Baths, provided the Body is prepar'd for them, and if there is neither a Plethora, a Cacoehymy, nor a Loss of Strength, to contraindicate their Use: Twice a Day, in the Morning, and at four in the Afternoon, the Patient may sit, for half an Hour, in pure River-water; or, which is far better, that of *Lauchstad Springs*: After which he is to go to Bed for a little time, and drink a few Cups of some warm Infusion. The whole Body is not only surprisngly corroborated by this means, but Perspiration being so far promoted, as to rise to a Sweat, an excellent Derivation of the Humours is made from the Part affected.

The Cure of a virulent Gonorrhœa, if duly set about in the Beginning, is not very difficult; but if the Disorder, after having been preposterously treated by Astringents, a Practice common among Empirics, is committed to the Management of a Physician, the Cure is so difficult, that he often finds it more difficult to remove such a Gonorrhœa, than an universal Lues. But, in my Opinion, the most rational Method of curing this Disorder consists, first, in expelling from the Body, as soon as possible, the Venereal Poison receiv'd into the Genitals, and which is partly of an acrid, caustic, and partly of a putrid Nature. Then, when the Parts destin'd to the Conservation and Excretion of the seminal Fluid are relax'd, corroded, or exulcerated, by the virulent Matter, they are to be cleans'd, consolidated, and strengthen'd, that, by this means, too copious an Afflux of Humours to them, for the future, may be prevented.

Since, therefore, the first Step to be taken, by the Physician, is, with all Expedition, to expel the Venereal Poison, in order to prevent its pernicious Effects; I think it highly proper to exhibit Alexipharmics, and use a sudorific Regimen, immediately after suspected or impure Embraces. For this Purpose we recommend an Essence, prepar'd of equal Portions of the Spirit of Hartshorn, Spirit of Amber, and the *Essentia Bezoardica*; sixty Drops of this Essence may be taken every Morning, in an Infusion of Scordium, Scabious, and Goats-rue; and the Patient must keep his Bed for an Hour after, in order to sweat. Nor does the following diaphoretic Powder promise less Success.

Take of bezoardic Powder, two Drams; of bezoardic Mineral, and medicinal Regulus of Antimony, each half a Dram; of Nitre, fifteen Grains; and, of Camphire, four Grains: Make into a Powder, to be divided into four Doses; one of which is to be taken at Bed-time, for three or four Nights.

Externally, in order to discuss the Poison convey'd to the Genitals, I generally advise the Use of the *Aqua Sclopetaria*, (See AQUA) render'd stronger with Essence of Amber, and camphorated Spirit of Wine. A Cloth, wet in this Preparation, may be apply'd to the Penis, the Region of the Pubes, and the Perœneum, even during the Diaphoresis.

But if the Poison has penetrated farther, and, by intimately insinuating itself into the Parts, has produc'd a virulent Discharge, accompanied with Heat, Pain, and Exulceration; the principal Business of the Physician is, by Remedies calculated both to correct and eliminate the peccant Matter, to free the Body from the impure Sordes. To the Medicines answering this Intention, belong Purgatives, the most important Ingredient in which is *Mercurius Dulcis*, which is possess'd of a peculiar and specific Virtue in correcting an ulcerous and caustic Acrimony; as also in evacuating and resolving Viscidities. It is most commodiously mix'd with an equal Quantity of the Extract of Rhubarb; or, for the Use of serous Patients, with an equal Quantity of the *Extractum Panchymagogum Crollii*; and reduc'd to the Form of Pills, with Balsam of Capiivi, or Peruvian Balsam. Of these Pills, let a Scruple, or half a Dram be taken every other Day, till the Heat of Urine is remov'd, and the yellowish or greenish Matter discharg'd assumes a better Colour. The same Intention is, also, excellently answer'd by the following Pills:

Take of the purest Gum Ammoniac, Sagapenum, Extract of black Hellebore, of the *Trochisci Alhandal*, of Mer-

curius Dulcis, of the Rosin of Guaiacum, and of Balsam of Capiivi, each one Dram: Make all into a Mass, from each Scruple of which make Pills, which may be taken three Days successively, either in the Morning, or towards Evening.

Then, for two Days, the Alexipharmics above-mention'd must be exhibited, especially in phlegmatic Patients, in the Method already specified. After this, the Pills are to be exhibited, and then Sweat excited for three Days more, and it is expedient to repeat this three times.

After a sufficient Evacuation of the impure Humours, such Remedies are to be us'd, as by their mild balsamic Virtues dry, consolidate, and strengthen the too much relax'd seminal Vessels; and by that means check the Discharge. Among these we may justly reckon boil'd Turpentine, Mastich, Amber, Myrrh, Opobalsamum, Rhubarb, Armenian Bole, Diaphoretic Antimony, Japan Earth, Blood-stone, and the *Antimonium Martiale Cachecticum*, which may be reduc'd to Pills, in the most commodious manner. But I, with great Success, have prescrib'd those prepar'd in the following manner:

Take of Venice Turpentine, of Amber, Mastich, Extract of Rhubarb, and Cascarilla, each two Drams; of Balsam of Capiivi, and Resin of Guaiacum, each one Dram: Mix all together, and, from each half Dram of the Mass, form Pills, to be taken during ten or more Days successively, towards Night, in a temperating Emulsion; drinking, next Morning, an Infusion of *Paul's Betony*, Mint, Baum, Yarrow, and Saracens Confound; or a Decoction of the Roots of China, Sarsaparilla, Liquorice, Succory, and crude Antimony tied up in a Bag.

For checking the feminal Discharge, the following Mixture is, also, of singular Service.

Take of the acrid Tincture of Antimony, of the Essence of Guaiacum, of Amber and Aloes-wood, each an Ounce; of the Tincture of Blood-stone, or of the chalybeate Liquor, prepar'd from the *Caput Mortuum* of chalybeated Flowers of Sal Ammoniac, one Dram: Mix together, into an Essence, which is of a blackish Colour, and of which, after sufficient purging, forty Drops may be taken, twice a Day.

But, unless internal Medicines be seconded by external Applications, we labour in vain; but these vary according to the Nature of the Symptoms: Thus, in order to lay the Pain and Heat of the Genitals, as, also, to bring Buboës to Suppuration, the best Applications are Cataplasms, prepar'd of demulcent and emollient Ingredients, such as Roots of white Lily and Marshmallows; Flowers of Chamomile, Elder, and Mullein; the Seeds of Fenugreek, Cumin, Dill, and Henbane, made into a Cataplasm, with a Decoction of Oats, or with Milk, and frequently applied warm. In order to cleanse exulcerated Parts of the Urethra, and corroborate such as are relax'd, nothing is of more Service than Injections, prepar'd of two Drams of Mercurius Dulcis, boil'd for a Quarter of an Hour in half a Pint of a strong Infusion of some vulnerary Plant, made by way of Tea. But if the Corrosion is very violent, Milk, and despumated Honey, together with a Decoction of Myrrh, prepar'd with Water, is to be injected, by means of a Syringe.

It is of the highest Importance, that the Physician should prescribe a proper and strict Regimen: Above all things, he ought to order his Patients to abstain from Aliments prepar'd with Aromatics; from such as are of hard Digestion, or too nutritive a Quality; from Wine and Ale; from violent Exercise; from the Sallies of Passion; and from Conversation with Women; otherwise this Disorder will not only be cur'd with Difficulty, but will readily recur. Let the Patient, for Aliments, use weak Broth, prepar'd with Endive, Sorrel, Lettuce, and Succory; and, for common Drink, let him use a Decoction of Liquorice, with Barley or Whey. Excellent Effects are, also, produc'd by Emulsions of sweet Almonds, the Four greater cold Seeds, and white Poppies, together with a thin Decoction of Hartshorn, us'd for common Drink; to which may be commodiously added, purified Nitre, as, also, gently diaphoretic Powders, prepar'd of calcin'd Hartshorn, diaphoretic Antimony, or Cerus of Antimony; for, by these means, the Acrimony of the Humours is corrected, and the Heat and Pain of the Genitals effectually allay'd.

In a benign Gonorrhœa, drastic Purgatives, and Preparations of Mercury, are to be cautiously us'd, as well as the strong and diuretic Balsamics; for these, by putting the Humours into a violent Commotion, and forcing them to the weaken'd Genitals, increase the Discharge of the Matter. These are still more to be abstain'd from by Persons of sanguine and choleric Habits, to whom they are, in a particular manner, prejudicial. The same is to be affirm'd of Astringents, which ought never to be us'd without a previous Cor-

rection

rection of the Humours, unless we intend to bring on a Gonorrhœa of a bad Kind, especially in those whose Juices are highly impure.

Venesection, Abstinence, weak and drying Aliments, and Drink, are of singular Service in the Beginning of this Disorder, in phlethoric, fat, and spongy Habits, for such as live high; whereas, if, by the Continuation of the Disorder, the Body is much weaken'd, these Measures are not at all to be taken; since, by exhausting the Strength still more, they often induce a Cachexy, a Tabes Dorsalis, a hectic Fever, or an ignominious Impotence.

In the Cure of a malignant Gonorrhœa, the Physician ought to have a particular Regard to the Constitution of the Patient; for it is of the highest Importance, whether he is of a choleric, sanguine, or a phlegmatic Habit; as also, whether he is robust, or tender: Nor ought he to be less cautious in inquiring into the State of his Humours; for, according as the Condition of these varies, so the Disorder is attended with different Symptoms. Thus, if the Body is cacochymic, or, in consequence of a bad Regimen, affected with the Itch, a scorbutic purple Fever, or the hypochondriac Disorder, then the Symptoms are more terrible, and not to be cured without great Difficulty.

When Men of a hot and delicate Constitution are seiz'd with this Disorder, they ought, especially in the Beginning of the Distemper, to abstain from hot Substances, Purgatives, Sudorifics, Diuretics, Decoctions of the Woods, such as that of Guaiacum, acrid Substances, as, also, the Essences of *Peruvian* Balsam, and Opobalsam; for, by the preposterous Use of these, without a due Preparation of the Body, the peccant Humour is often retain'd, the Discharge suppress'd, and not only Buboës form'd about the Genitals, but also ulcerous Pustules, of a bad Kind, produc'd on the Face.

I remember to have seen a recent Gonorrhœa perfectly cur'd, and the Poison expel'd, from Patients of a languid Habit, after sufficient Purgings, by Corroboratives, and gently spirituous Substances. With this Intention, the following Preparation may be frequently exhibited:

Take of Mint, three Handfuls; of *Venice* Turpentine, one Ounce; of *Peruvian* Balsam, half an Ounce: Distil with three Pints of *Rhenish* Wine. The Dose is from one to two Ounces.

For this the following Formula may very properly be us'd as a Succedaneum.

Take of Rose-water, and rectify'd Spirit of Wine, each half a Pint; of Rose-water, two Ounces; and of the Balsam of Life, fifty Drops: Mix all together.

So long as the Matter discharg'd is fetid and greenish, Astringents are never to be us'd; for when, by their means, the Discharge is too soon stop'd, or when too strong Decoctions of the Woods, together with a sudorific Regimen, are us'd, the Poison passes into the seminal Fluids and Lymph, and produces the Symptoms peculiar to a confirm'd Pox. But by no Astringent are worse Effects produc'd, than by Sugar of Lead unseasonably exhibited internally, as is the Custom with Quacks; for, by means of this Medicine, I saw a convulsive Colic, a Loss of Appetite, and an obstinate Costiveness, brought on. Astringent Injections ought, in like manner, never to be us'd, till the Impurity of the Matter is corrected.

Among diuretic Medicines, Cantharides, and the Essence of them, are, in my Opinion, to be highly condemn'd; since they are prejudicial to the urinary Passages, and excite violent Inflammations of the Kidneys and Bladder, together with a Discharge of bloody Urine, unless their Effects are prevented by the Use of proper Medicines.

In the Cure of a virulent Gonorrhœa, Venesection is rarely necessary; and, in delicate Constitutions, easily subject to a Suppression of the Discharge, it is more prejudicial than beneficial: But, if the Body is full and young, Venesection may be beneficial, in order to mitigate the Symptoms.

It sometimes happens, from various Causes, that, when the Matter is discharg'd in too small a Quantity, Pustules break out here and there on the Body. In this Case, it is highly expedient to moisten and relax the Parts affected, and, by Purgatives, to derive the Humours downwards. This Intention is also promoted by Injections of sweet Milk, and a Decoction of Oats, mix'd with Oil of sweet Almonds; by which I have often known the Discharge brought on again.

'Tis surprising, that a Gonorrhœa cannot be remov'd by Salivation; for we know, from Experience, that the worst Venereal Ulcers have been cur'd by this means, whilst, at the same time, the Gonorrhœa has remain'd; and this terrible Discharge, when ill treated, and become inveterate, frequently continues all the Patient's Life; for sometimes scirrhous and fistulous Ulcers, not to be remov'd without the greatest Difficulty, are lodg'd both in the large and small

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Glands. In Cases of this Nature, I have found the most happy Effects produc'd by the internal Use of the *Caroline* Baths, which, though cautiously to be us'd in a recent Gonorrhœa, because they relax the weaken'd Parts still more, are yet highly beneficial when the Disorder is inveterate; since they remove the Obstructions of the Vessels, and resolve latent, incarcerated, and hard Tumors. But I would have them exhibited in small Quantities, using, at the same time, both during and after the Cure, internal Medicines, and Injections of a corroborating and balsamic Nature.

When the Urethra, whose middle Coat is highly glandular, is not only exulcerated, but too much relax'd, and, something adheres to the fungous Substance of the Penis, from which troublesome Caruncles afterwards arise, I have often, with good Success, order'd Essence of Opobalsam, extracted with Spirit of Wine, as also the Balsam of Life, diluted with three Parts of the *Aqua Solpetaria*, to be injected frequently every Day. By such an Injection, a violent Heat is indeed excited, but it soon remits. As for Caruncles, which are a Species of Warts, I think they ought to be remov'd by corrosive Powder, or the actual Cautery; the Application of which calls for a skilful Hand, lest the adjacent Parts should be injur'd.

For cleansing Ulcers of the Glans and Penis, the following Epithem is of singular Service:

Take of Quick-lime-water, mix'd with Rose-water, two Ounces; of the *Aqua Solpetaria*, one Ounce; of the Sugar of Lead, ten Grains; and of white Precipitate of Mercury, eight Grains: Mix all together.

And, when the Intention is to consolidate, the best Medicine is the antimoniated Balsam of Sulphur, or that prepar'd with Oil of Turpentine, and mix'd with a digestive Ointment.

Buboës are to be maturated by the emollient Plaister of *Agricola* malaxated with Oil of Henbane and Soap. This Intention is, also, excellently answer'd by *Barbetti's* Plaister, prepar'd with Soap, and a small Quantity of the Oil of Henbane.

Tumors of the Scrotum and Testicles are to be remov'd by warm Fomentations, or the Steams arising from Decoctions of emollient Herbs and Flowers, prepar'd with Milk. By this Method, seasonably us'd, the Tumor is so soften'd, that emollient Plaisters may be afterwards applied with more Advantage. *Frederic Hoffman*.

Boerhaave thus delivers his Opinion of a virulent Gonorrhœa:

A Gonorrhœa proceeds from the infecting Matter imbib'd by the dilated Pores of the Glans, in that Instant of Time when this Part first begins to subside from its turgid State in the Venereal Paroxysm. In this Case, the contagious Poison takes its Place in the Cells of the *Corpus Spongiosum* of the Glans; which is wrapt up in its two Membranes, and continu'd all the Way to the Neck of the Bladder. From this Continuation of its Structure it is that the slightest Contagion is easily propagated through all this Tract; and when once the Poison has made its Way into the *Membrana Cellulosa*, which is here extremely tender, it immediately produces a small Ulcer, attended with a whitish yellowish Discharge, of the Consistence of new Cream, like it, almost void of Tenacity or Ropiness to the Fingers, and which, when it dries upon the stiffen'd Linen, appears of a Colour between green and yellow. This filthy Pus, feeding upon the fine satulish Texture of the Part, digs out, by degrees, an ample Cavern, in which it is prepar'd, accumulated, retain'd, and from which it makes a slow, drilling, spontaneous Exit, or is press'd out in considerable Quantities. If this Cavity is confin'd within the fungous Texture of the Glans, and, through its Surface, has form'd to itself Outlets, a very filthy Pus issues out, by which both the Glans and Prepuce are corrupted, and sometimes consum'd and mortify'd. This, according to *Boerhaave*, is the first Species of a virulent Gonorrhœa. It is known by a sordid Moisture, of a less thick Consistence than what is produc'd in the other Kinds of this Disease, continually prepar'd within the Structure of the Glans and Prepuce, and, when the Glans is squeez'd, sweating out upon its Surface. After the Contagion is remov'd, this Kind of Gonorrhœa is easily cur'd. And, in order to the Cure, these Parts must be bathed often in a Day with a Fomentation, compounded of Honey, Salt, Wine, and Water; or with a Solution of Myrrh in Wine, made by Digestion in a proper Heat; or with Vinegar, and a small Quantity of Aloes, much diluted with Water. Above all things, any the least Moisture, which may lie conceal'd among the Rugæ of the Prepuce, must be very carefully wip'd off. After the Part has by these means been very accurately depurated, let the naked Glans, with the Prepuce drawn back, be involv'd in an emollient, relaxing, attracting, anodyne, and somewhat antiseptic Cataplasm. One who is skill'd in the *Materia Medica*, can never be at a Loss for proper Materials. For Instance:

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